AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

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NEW-YORK:

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JOHN H. SCHULTZ & CO.

Room 12, Third Floor,

No. 136 Nassau Street.

CAUTION

TO RAILROAD COMPANIES AND CAR MANUFACTURERS.

THE PATENT OFFICE having decided in favor of F. M. Ray as the first and true inventor of the India-rubber Railroad Spring, and against W. C. Fuller, who had claimed the same as his invention, and at whose instigation and that of Horace H. Day (who has manufactured the metallic or vulcanized rubber for such springs), several Railroad Companies have infringed, not only upon the rights of the said F. M. Ray, and rendered themselves liable for large damages, but also upon the patent rights of Charles Goodyear, against all of whom suits for damages for infringement will be commenced, in the event of failure to recover compensation speedily against Horace H. Day, against whom several suits are now pending:—all Railroad Companies are cautioned against infringing or pirating upon the said patent rights of said Charles Goodyear, or of F. M. Ray, by the use of such India-rubber car springs, and for all future infringements, actions will be immediately commenced.

Annexed is a copy of the official certificate from the Commissioner of Patents:

COPY.

U. S. PATENT OFFICE, WASHINGTON, D. C.,
12th September, 1850.

Sir—You are hereby informed that in the case of the interference between your claims and those of W. C. Fuller, upon which a hearing was appointed to take place on the second Monday in August, *the question of priority of invention has been decided in your favor.* I enclose a copy of the decision.

The testimony in the case is now open to the inspection of those concerned.

Yours respectfully,
Signed DELLITT C. LAWRENCE,
Acting Commissioner of Patents.

To Mr. Fowler M. Ray,
C. M. Keller, Esq., New York.

In answer to the above, Mr. Knevitt states in his Advertisement in effect that Mr. Ray obtained his patent by *bribing the Commissioner.*

When a case has become so bad that parties in their desperation in defense of themselves are compelled, as a last resort, to attack the character of a person holding an office of such high honor and trust as that of Commissioner of Patents of the U.S., what reliance can be placed upon any of their statements? The character of the Hon. Mr. Ewbank, Commissioner of Patents, stands too high with the public to require any defense at my hands; and all attempts by Knevitt or Day to escape from the charges of having tried to deceive the public and railroad companies, by aspersing the character of Mr. Ewbank, and insinuating that he has been improperly biased or influenced in deciding against W. C. Fuller, and in my favor as the first and original inventor of the spring in question—will only recoil on themselves.

Now what was the question between Fuller and Ray thus decided in favor of Ray?

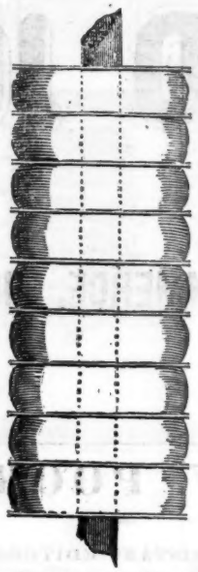
It was whether Fuller or myself was the first inventor of India-rubber springs, with metallic plates interposed.

On the 1st August, 1848, I obtained a patent for a form of spring, (about which there is no dispute) which consisted of a cylinder of India-rubber, with circular bands upon the outside circumference. This kind of spring in nineteen cases out of twenty, I may say, has been adopted as the best and most approved form of spring by railroad companies. The validity of this patent was not questioned in this controversy; but the question submitted to the Commissioner of Patents for his investigation and decision, and in respect to which a very large mass of testimony was taken, was whether W. C. Fuller or F. M. Ray was the first inventor of a form of spring, composed of alternate discs or rings of India-rubber, with metallic plates interposed, etc? That question has been decided *against* W. C. Fuller, an in *my favor, as the first inventor.*

There is no escaping from this decision, and the parties who hope to do so by injurious imputations against the Commissioner of Patents, who made the decision in this case, will be disappointed.

It will require something more, they will find, than mere assertions or insinuations to produce any distrust of the integrity of the Commissioner of Patents. The testimony in this case clearly proved that I was the first inventor of the spring in question, and justly entitled to the patent which had been granted to W. C. Fuller for the same invention, and the Commissioner of Patents could not have made any other decision.

The cut given below represents a model for which a patent was granted to Mr. Ray in his contest with Fuller. It is a perfect *fac simile* of the original invention.



A patent was granted to Fuller by the United States on the 22d October, 1846 under the title of "An improvement in Railway Carriages." At this time I was pursuing my experiments with a view to ascertain with greater certainty, the best form of spring for railroad cars, and knew nothing about the invention or patent of Fuller till I applied for a patent shortly afterwards, and received notice from the Patent Office of the interference with Fuller's which *this decision has settled against Fuller and in my favor.*

Knevitt says that I made the same application to Mr. Burke, the former Commissioner of Patents, which was refused, without giving the reason why it was refused, leaving it to be inferred without daring to make the assertion openly, that, as between Fuller and Ray, Mr. Burke had decided against Ray: whereas, the fact is, as the record of the case at the Patent Office will show, that the application was refused on the ground that there had been a patent granted in England to Lacy prior to either Ray or Fuller, and that objection, if correct, would prove fatal to a suit by Fuller upon his patent, as well as to a suit by me upon my patent for the same thing; but the Commissioner of Patents, upon a closer and fuller investigation of the English patent granted to Lacy, than was given to it on the first application, has decided that the patent to Lacy is not in the way of a patent either to Fuller or myself, for the form of spring in question—that is, alternate discs of rubber, with metal plates interposed, etc. And, as between Fuller and myself, *the Commissioner of Patents has decided that Fuller is not the first inventor, but that I am, and am entitled to the patent in question.*

It would seem unnecessary to add anything more; enough I trust has been shown to put the question at rest with the various railroad companies, the parties most interested in this decision.

In a few days I shall have something to say in reply to Knevitt's statements in regard to his and Day's infringement upon Goodyear's patent by the manufacture and sale of Vulcanized rubber, and the publications which they have put forth to induce railroad companies to become parties to the infringement on said patent, and to get them involved in controversy; but as there are a number of suits against Day for damages to a large amount for infringement in this respect and other matters, and particularly as there is a suit by Goodyear against Day, which will in a few days be tried, unless Day succeeds in putting it off, of which there is very little probability, as I am informed, I shall abstain for the present from saying anything about this subject. It may not, however, be out of place to notice Mr. Knevitt's remarks upon a bill growing, as he says, out of certain contracts and India-rubber patents filed by Goodyear vs. Day in the Circuit Court of the Southern District of New York, in which he says no injunction was granted. In that case Day objected to the jurisdiction of the court on the ground that neither of the parties were citizens of the State of New York. The court took the papers but have not yet given any definite decision as I understand.

We live, indeed, in an age of improvement and reform, and inventors and patentees may take encouragement that their rights will be hereafter protected, if the law has become such a terror to evil doers that the slightest escape from its clutches has come to be celebrated by illumination of houses and the firing of cannon.

The New Brunswick "Fredonia" thus comments upon this *remarkable* advantage gained by Day, by the courts suspending their decision.

Copied from the Trenton "True American," Sept. 21st. 1850.

"The New Brunswick 'Fredonia' states that Mr. H. H. Day's factory, in that city, was illuminated on Monday night last, and cannons fired in consequence, we learn, of some advantages gained by Mr. D. in the decision of a suit between him and Mr. Goodyear, in which was involved the violation of a patent right to manufacture India-rubber in some one or more of its multifarious forms."

Mr. Knevitt wisely declines to say anything about the suits of Charles Goodyear against Horace H. Day for damages for infringement of Goodyear's patent, by manufacturing for Knevitt the vulcanized rubber, of which all these springs, sold by Knevitt to railroad companies, were composed, and I leave both Day and Knevitt to answer to the few railroad companies whom they have deceived, and thus rendered liable for large damages for infringment of Goodyear's patent, in the best manner they can.

Knevitt probably anticipates that a judgment will be obtained by Goodyear against Day in the cause which will, in all probability be tried next week, at Trenton, in the Circuit Court of the United States, and, if Day should succeed in putting off that cause, there are two other suits by Goodyear against Day, for $20,000 damages each, which will be tried at Boston in from thirty to sixty days unless Day succeeds in putting them off also.

Knevitt does not pretend to deny that he has given false assurances to the few railroad companies whom he has thereby induced to infringe upon the springs, which the Commissioner of Patents has decided against Fuller, and in my favor, as the first and true inventor; but, for the purpose of diverting attention from this fact, he still continues to harp upon *a separate and distinct patent* of mine for railroad springs, which, he says, was for *India-rubber* and *air*, and has proved useless. How much truth there is in this assertion may be gathered from the following copy of the claims in that patent, and from the fact that the spring patented by me in 1848, is the most approved form, and the one adopted in nineteen cases out of twenty, and is used on nearly every railroad in the United States.

Copy of the claims in patent granted to Fowler M. Ray, August 1st, 1848:

FIRST—In combination with springs made of vulcanized India-rubber, substantially as above described, the use of hoops or bands on the external circumference at the ends, or between the ends, or at the ends, and at any required distance between the ends, substantially in the manner and for the purposes above described.

SECOND—I claim combining the elasticity of India-rubber cylinders, substantially such as herein described, with the elasticity of atmospheric air, or other permanently elastic gas, by closing up the ends of such India-rubber cylinders either with discs of India rubber, or the equivalent thereof, such as solid discs of metal, substantially in the manner and for the purposes specified.

This patent bears date 1st Aug., 1848.

I take no notice of the opinions of counsel cited by Knevitt. Knevitt ought to know that the paid opinions of lawyers employed in a case, will have no weight whatever. There are always two sides to all causes, and it is the business of counsel to advocate the cause of their clients.

F. M. RAY.

New York, October 1, 1850.

IRON BRIDGES, BRIDGE & ROOF BOLTS, etc. STARKS & PRUYN, of Albany, New York. having at great expense establishe, a manufactory with every facility of Machinery for Manufacturing Iron Bridges, Bridge and Roof Bolts, together with all kinds of the larger sizes of Screw Bolts, Iron Railings, Steam Boilers, and every description of Wrought Iron Work, are prepared to furnish to order, on the shortest notice, any of the above branches, of the very best of American Refined Iron, and at the lowest rates.

During the past year, S. & P. nave furnished several Iron Bridges for the Erie Canal, Albany Basin, etc. —and a large amount of Railroad Bridge Bolts, all of which have given the most perfect satisfaction.

They are permitted to refer to the following gentlemen:

Charles Cook, Nelson J. Beach, Jacob Hinds,	Canal Commissioners of the State of New York.
Willard Smith, Esq.,	Engineer of the Bridges for the Albany Basin.
Messrs. Stone & Harris, Mr. Wm. Howe,	Railroad Bridge Builders, Springfield, Mass.
Mr. S. Whipple,	Engineer & Bridge Builder, Utica, N. Y.

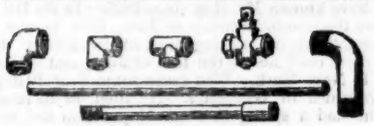
January 1, 1849.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets.

PHILADELPHIA.

Fire Brick.

THE Subscribers have constantly on hand Rafford's Stourbridge, Oak Farms Stourbridge, Lister, Worley, Red and White Welsh Fire Bricks, common and fancy shapes. Also,

ROOFING SLATES,

from the best Welch quarries, and of all sizes. Also

COAL,

of all kinds—Liverpool Orrell and Cannel, Scotch, New Castle, Pictou, Sidney, Cumberland, Virginia, and all kinds of Anthracite coals. Also,

Pig Iron, Salt, etc., etc., for sale at the lowest market price. Apply to

SAMUEL THOMPSON & NEPHEW,
275 Pearl and 43 Gold Sts., New York.

November, 23, 1849.

Patent India Rubber Steam Packing.

THIS article, made by the subscriber, who alone is authorised to make it, is warranted to stand as high a degree of heat *as any that has been or can be made by any person*—and is the article which has made the reputation of India Rubber Steam Packing and the demand therefor. A large assortment of all thicknesses requisite for any description of engines, steam pipes, valves, etc., constantly on hand and for sale by the manufacturer and patentee, who will give every information regarding its properties, mode of use, etc. at the warehouse. JOHN GREACHEN, JR.,

98 Broadway, opposite Trinity Church.

New York, October, 1849.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Swiiches, etc.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to C. LIEBRICH,

46 South 8th St., Philadelphia.

November 8, 1849. 6m*

RAILROAD India-rubber Springs.

IF any Railroad Company or other party desires it, the NEW ENGLAND CAR COMPANY will furnish India-rubber Car Springs made in the form of washers, with metalic plates interposed between the layers, or in any other form in which they can be made; in all cases guaranteeing the right to use the same against any and all other pretended rights or claims whatsoever.

F. M. Ray, 98 Broadway, New York.
E. CRANE, 99 State Street, Boston.
1849.

MACHINE WORKS OF ROGERS KETCHUM & GROSVENOR, *Patterson, N. J.* The undersigned receive orders for the following articles manufactured by them of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

Railroad Work.—Locomotive Steam Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of Cast Iron a variety of patterns and chills; Car Wheels of Cast Iron with wrought tires; Axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and millwright work generally, hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patterson, N.J. or 74 *Broadway, New York.*

THE NEWCASTLE MANUFACTURING Co continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack Screws, Wrought Iron Work and Brass and Iron Castings, of all kinds connected with Steamboats. Railroads, etc.; Mill Gearing of every description; Cast Wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
President of the Newcastle Manuf. Co.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

Iron Safes.

FIRE and Thief-proof Iron Safes, for Merchants, Banks and Jewelers use. The subscriber manufactures and has constantly on hand, a large assortment of Iron Safes, of the most approved construction, which he offers at much lower rates than any other manufacturer. These Safes are made of the strongest materials, in the best manner, and warranted entirely fire proof and free from dampness. Western merchants and the public generally are invited to call and examine them at the store of E. Corning & Co., sole agents, John Townsend, Esq., or at the manufactory.

Each safe furnished with a thief-detector lock, of the best construction.

Other makers' Safes repaired, and new Keys and Locks furnished at the shortest notice.

H. W. COVERT
cor. Steuben and Water sts. Albany

August 24, 1848.

Patent Self-clinching Railroad Spikes.

These spikes have been in use upon various roads for several years, and have met with universal approval by Engineers. They drive in the manner shown, turning themselves, and are therefore not liable to work loose. They will prove of great value to secure the chair.

We are also manufacturin railroad spikes, hook and fla head; wrought chairs, clamps, etc., of superior quality, and are prepared to contract for any pattern or weight upon favora ble terms.

SMITH & TYSON,
25 South Charles st., Baltimore Md.

P. H. Griffin,

Corner of Steuben and James Sts. Albany, N.Y.,

CONTINUES to manufacture copper flues for locomotive boilers, brewers' coppers, stills, tanner heaters, etc. Copper work in general, at the shortest notice. He has constantly on hand brass cocks, brass valves, copper pumps of every variety.

Orders promptly attended to. 1y14

Mattewan Machine Works.

THE Mattewan Company have added to their Machine Works an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern–also *Tenders, Wheels, Axles*, and other railroad machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen, or other Mills*, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Plaining, Cutting and *Drilling Machines*, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at 66 Beaver street, New York.

WM. B. LEONARD, *Agent.*

Gloucester Iron Works,

GLOUCESTER, NEW JERSEY,

NEARLY OPPOSITE PHILADELPHIA.

THE subscribers having made extensive alterations in their works, are now prepared to receive orders for all kinds of Stationary and Marine Engines, Boilers, Locomotives, Sugar Mills, and every description of Mill Work.

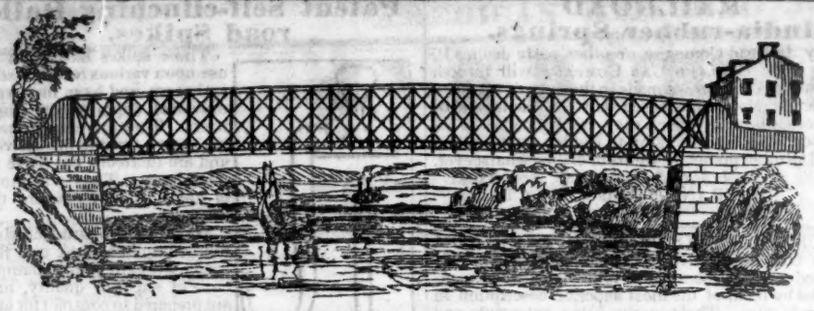
Also—Orders for Iron and Brass Castings executed with despatch.

Having secured the valuable services of Mr. David Matthew as Superintendent (who has been for five years foreman in the Iron Works of John Watchman, now the Vulcan Works, Baltimore, and for 12 years superintendent of the Mohawk and Hudson and the Utica and Schenectady Railroads, New York,) they feel confident that all orders entrusted to them will be faithfully executed.

Having an extensive Wharf in front of their works, it will afford a safe harbor for all classes of steam vessels that may require repairs during the winter.

C. M. & J. C. SITER.

Gloucester, July 24, 1850. 1m.



NEW YORK IRON BRIDGE COMPANY.

The Bridges manufactured by this Company having been fully tested on different Railroads, by constant use for more than two years, and found to answer the full expectations of their most sanguine friends, are offered to the public with the utmost confidence as to their great utility over any other Bridge now known.

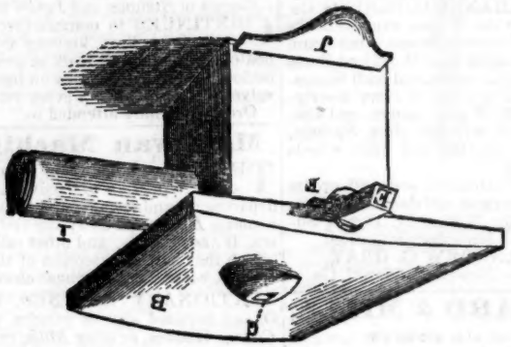
The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time it is so arranged as to secure the combined principles of the *Arch, Suspension and Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE NEW YORK IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Railroad or other purposes, at short notice, and at moderate prices.

Models, and pamphlets giving full descriptions of the above BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 39 Jauncey Court, Wall st., or of W. RIDER & BROTHERS, 19 *Nassau Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
August 29, 1849. Agent for the Company.

E. Harris' Patent Rotary Blacksmith Tuyere.



LETTERS Patent were issued January 9, 1849, to E. HARRIS, of Springfield, for an Improved Rotary Blacksmith Tuyere. Since that time there have been some hundreds put in operation, giving satisfaction and full proof of superiority over all others.

This Tuyere is so arranged that by one movement it can be changed from the largest work to the smallest; at the same time the fire is changed in proportion, thereby making a great saving in coal. Words cannot convey the full merits of this Tuyere; nor is it deemed necessary to speak in disparagement of other Tuyeres, as every smith is capable of judging for himself, and will give merit where merit is due.

I will simply say that there has not been a single instance where I have had my Tuyere put in use but it has given full satisfaction, and is recommended by all who have used them, as being superior to any other ever introduced. I would invite all to give them a trial; and the names of those using them being given, I hope it may induce others to try them, they recommend themselves.

Western Railroad Shop,	Springfield,	Mass.
" "	Pittsfield,	"
Connecticut val. "	Springfield	"
" "	N. Hampton	"
Hartford "	Hartford,	Conn.
New Haven "	New Haven	"
Norwich and Worcester,	Norwich	"
N. York and N. Haven,	New Haven	"
Saratoga and Whitehall,	Saratoga,	N. Y.
Vermont Central,		
Hudson and Berkshire,	Hudson,	
L. Kingsley,	Canton,	Mass.
Hadley Falls Co.	Ireland, W. Springfield,	Mass.
Sidney Patch,	Boston,	"
Ames Manuf. Cor.,	Chickopee,	"
American Machine w'ks,	Springfield	"
Dean, Packard & Mills	"	"
G. Frank Bradley,	N. Haven,	Conn.
Andrew Baird,	"	"
Collis & Lawrence	"	"
Slate & Brown,	Windsor Locks,	
Gage,	Nashua,	N. H.
Machine shop,	Manchester,	"
Louis F. Lanney,	Baltimore,	Md.
J. H. Baerdid,	179 Chambers st.	N. Y.
J. Fanning	Rochester,	"
G. W. Hunt	41 Gold st.	"
Chamberlain & Waldo,		"
P. S. Burges, carriage maker,		"
Samuel Miller,		"
J. Leggett,	Steverson falls,	"
J. E. Harris,	Hillsdale,	"
John L. Graham,	Albany,	"
David Dalsell,	South Egremont,	Mass.
Roys & Wilcock,	Berlin,	Conn.

Agents for the sale of Tuyeres:
B. B. Stevens in New York and Connecticut.
A. J. VanAllen has the Agency for the Western and Southern States, and is now travelling through those States. Any communication addressed to the patentee will receive prompt attention.

E. HARRIS, Patentee,
Springfield, Mass.
November 23, 1849.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.
August, 16, 1849. 6m33

Gas Fixtures.

FIXTURES for Burning Gas for Lighting Public Buildings, Private Dwellings, Stores and Factories, manufactured by the subscriber in great variety. Orders by Mail, or left at the Factory on Causeway street, will be promptly attended to.

HENRY N. HOOPER & CO.
Boston, March 23, 1850. 6m13

F. M. Ray's Patent India-rubber Car Springs.

India-rubber Springs for Railroad Cars were first introduced into use, about two years since, by the inventor. The New England Car Company, now possesses the exclusive right to use, and apply them for this purpose in the United States. It is the only concern that has tested their value by actual experiment, and in all arguments in favor of them, drawn from experience of their use, are in those cases where they have been furnished by this company. It has furnished every spring in use upon the Boston and Worcester road, and, in fact, it has furnished all the springs ever used in this country, with one or two exceptions, where they have been furnished in violation of the rights of this company; and those using them have been legally proceeded against for their use, *as will invariably be done in every case of such violation.*

The Spring formed by alternate layers of India-rubber discs and metal plates, which Mr. Fuller claims to be his invention, was invented by Mr. Ray in 1844.—In proof of which we give the deposition of Osgood Bradley, of the firm of Bradley & Rice, of Worcester, Mass., car manufacturers, and men of the highest respectability. In this deposition, in relation to the right of parties to use these springs, he says:

"I have known Mr. Ray since 1835. In the last of May or the commencement of June, 1844, he was at my establishment, making draft of car trucks. He staid there until about the first of July, and left and went to New York. Was gone some 8 or 10 days, and returned to Worcester. He then on his return said he had a spring that would put iron and steel springs into the shade. Said he would show it to me in a day or two. He showed it to me some two or three days afterwards. It was a block of wood with a hole in it. In the hole he had three pieces of India-rubber, with iron washers between them, such as are used under the nuts of cars. Those were put on to a spindle running through them, which worked in the hole. The model now exhibited is similar to the one shown him by Ray. After the model had been put into a vice, witness said that he might as well make a spring of putty. Ray then said that he meant to use a different kind of rubber, and referred to the use of *Goodyear's Metallic Rubber*, and that a good spring would grow out of it." There are many other depositions to the same effect.

The history of the invention of these springs, together with these depositions, proving the priority of the invention of Mr. Ray, will be furnished to all interested at their office in New York.

This company is not confined to any particular form in the manufacture of their springs. They have applied them in various ways, and they warrant all they sell.

The above cut represents precisely the manner in which the springs were applied to the cars on the Boston and Worcester road, of which Mr. Hale, President of this road speaks, and to which Mr. Knevitt refers in his advertisement. Mr. Hale immediately corrected his mistake in the article quoted by Mr. Knevitt, as will be seen by the following from his paper of June 8, 1848. He says:

INDIA-RUBBER SPRINGS FOR RAILROAD CARS.—"In our paper yesterday, we called attention to what promises to be a very useful invention, consisting of the application of a manufacture of India-rubber to the construction of springs for railroad cars. Our object was to aid in making known to the public, what appeared to us the valuable properties of the invention, as they had been exhibited on trial, on one of the passenger cars of the Boston and Worcester railroad. As to the origin of the invention we had no particular knowledge, but we had been informed that it was the same which had been introduced in England, and which had been subsequently patented in this country; and, we were led to suppose that the manufacturers who have so successfully applied this material, in the case to which we referred had become possessed of the right to use that patent. It will be seen from the following communication, addressed to us by a member of the company, by which the Worcester railroad was supplied with the article upon which our remarks were based, that we were in an error, and that the springs here introduced are an American invention, as well as an American manufacture. How far the English invention may differ from it we have had no opportunity of judging."

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

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GEN. CHAS. T. JAMES, *For Manufactures and the Mechanic Arts.*

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., 136 NASSAU ST.

Saturday, October 5, 1850.

Ship Building in New York.

New York has now come to be the great national thermometer, which indicates with unerring certainty the progress which this country makes in every department of industry or pursuit. In its claims to be the commercial metropolis, it has now no rival. Every great movement in the United States, either originates here, or makes this city the base of its operations. Almost the entire am't of the agricultural products of the great West are poured into her lap. As the seat of commerce, she feels all the variations in the value of cotton, the great regulator of exchange, as sensitively as does the planter himself. In nothing is her superiority more manifest then in the manner she has monopolised the advantages which have flown from the discoveries of gold in California, and the great migration to that State. No movement ever affected this city so much in so short a time. New York has not only received all the gold that has come from thence, but she has had the carrying, at enormous profit, of almost all who have gone thither. From the great supplies of gold, her money market has been kept in an easy condition, while in other leading cities it has been at a very high rate. To furnish conveyance to the vast crowds that have been constantly pressing to the gold regions, has stimulated ship building to an extraordinary extent; so that New York is now the great ship-building port of the world.

What chiefly distinguishes this city in the ship-building line, is the construction of her magnificent sea going steamers. She is the only city in the United States that has engaged to any considerable extent in this work. The public are hardly aware how rapidly steamships are superseding sailing vessels, or how superior they are to the latter as the transporters of commerce. The growth of the city, as well as the experience of those who are employing steamships, is full proof of this.—They have given an impulse to New York such as she never felt before, and have made her the grand focus of our commercial system.

Below we give a statement of tonnage either launched or on the stocks since January last, together with the builders' names, class of vessel, tonnage, etc., etc., which will be followed with a more minute account of such ships as deserve more particular notice. It is chiefly taken from the N. York Tribune, and is very full and complete in its details.

VESSELS LAUNCHED.

New York.

Builders.	Vessels.	Rate.	Tons.
Lawrence & Sneeden,	N. America,	steamship.	1850
Westervelt & Mackey,	Robert Kelly,	packet..	1150
	Ocean Queen,	packet..	1200
	Fran. P. Sage,	packet..	1200
	William Tell,	packet..	1200
	Rhine.....	packet..	1000
William H. Webb...	Isaac Webb..	packet..	2000
	Vanguard....	packet..	1350
	Florida.....	steamship.	1500
	Alabama...	steamship.	1500
	Celestial.....	clipper..	900
	Jos. Walker..	packet..	1350
	Union.....	steamship.	1500
Jacob Bell.....	Baltic.....	steamship.	3700
	St. Louis....	packet..	1000
	White Squall,	clipper.	900
Smith & Dimon.....	Universe	packet..	1300
	Mandarin....	clipper..	300
William H. Brown...	Arctic.....	steamship.	3500
	Boston.....	steamship.	700
	New World	steamship.	700
	New York..	steamship.	700
	Pacific....	steamship.	1200
William Collyer.....	Chingarora.	steamboat.	600
	St Lawrence	steamboat.	700
Jeremiah Simonson...	Promethens.	steamship.	2000
	————	steamboat.	100
	————	steamboat.	65
Thomas Collyer.....	Island City.	steamboat.	280
	T. Collyer,	steamboat.	250
	————	steamboat.	850
	Jenny Lind.	steamboat.	100

Steamships.....12 Steamboats..... 7
Packets.....10 Clippers..... 3

Total vessels launched in N. York.....32

Williamsburgh.

Builders.	Vessels.	Rate.	Tons.
P. Paterson & Stack...	Star of the West.	pack.	1280
	Angostura.....	brig.	800
	Lady Franklin	packet.	1300
	Arctic.....	packet.	1380
Jabez Williams.....	————	schooner.	250

Packets.....3 Schooner.....1
Brig.....1

Total launched..... 5

Launched at the Port of New York from January 1 to September 30, 1850.

Rate.	No.	Tons.	Rate.	No.	Tons.
Steamships..	12	19,550	Packets..	13	16,610
Steamboats..	7	2,245	Clippers..	3	2,600
			Brig.....	1	800
Tons of steamcraft..		21,795	Schooner.	1	250
Whole number of vessels launched.....		37	Tons of sailcraft.		20,260
Grand total of tonnage launched.....					42,055

VESSELS ON THE STOCKS.

New York.

Builders.	Vessels.	Rate.	Tons.
Lawrence & Sneeden,	————	steamboat.	600
	————	steamboat.	600
Westervelt & Mackay	Matamoros.	steamboat.	900
	Humboldt...	steamship.	2500
	Placer.....	steamship.	1100
	Underwriter.	packet....	1100
	————	clipper...	1050
William H. Webb...	Saml M. Fox.	packet...	1600
	————	packet...	1600
	Golden Gate.	steamship.	2000
	————	clipper..	1100
Jacob Bell.....	Berry.....	steamship.	800
	————	propeller.	2000
Smith and Dimon....	————	steamship.	2200
William H. Brown..	————	steamship.	400
	————	steamship.	600
Willliam Collyer....	————	steamship.	1200
	————	lighter...	50
	————	lighter....	50

Thomas Collyer	Carribeam	steamship.	1800
	Magnolia	steamboat.	500
Steamships	10	Steamboats	3
Packets	3	Propeller	1
Clippers	2	Lighters	—

Total vessels building in N. York 21

Williamsburgh.

Builders.	Vessels.	Rate.	Tons.
P Patterson & Stack,	San Francisco.	steamship.	2000
	Bro. Jonathan.	steamship.	1000
	Hornet	propeller.	1150
		clipper	800
Jabez Williams & Co		clipper	1350

Steamships	2	Propeller	1
Clippers	2		—
Total			5

Green Point.

Builders.	Vessels.	Rate.	Tons.
Collyer and Webb		steamboat.	100

Brooklyn.

Burtis & Morgan		steamboat.	450
Murray & Whiting		sloop	70

Hoboken.

Cape & Allison		schooner	270
Steamboats	2	Sloop	1
Schooners	2		—
Total in last three places			5

Building at the Port of New York at the present date, September 30, 1850.

Rate.	No.	Tons.	Rate.	No.	Tons.
Steamships	12	16,500	Packets	3	4,300
Steamboats	5	2,250	Clippers	4	4,800
Propellers	2	3,150	Schooners	2	530
Total steam vessels	—	—	Sloop	1	70
building 19; total		21,000	Lighters	2	100
Total tonnage building,		31,200	Total sail	12	9,300

The Work of Nine Months.

Vessels built	37	Tonnage	42,055
Vessels building	31	Tonnage	31,200
Grand Total of tonnage			73,255

New York, Sept. 30th, 1850.

LAWRENCE & SNEEDEN.

The North America, a first class steamship of 1,850 tons, originally intended for the Norwich and New London Steamboat Company's service at the east, but finally finished for California trade to run between the ports of Panama and San Francisco, under the command of Capt. Bliven, formerly of the *Jamestown*. Her dimensions are: length, 255 feet; beam, 34½; hold, 22. She is built of oak, locust and cedar, and will be elegantly finished.—She has four masts, a beam engine of 60 inches cylinder and 12 feet stroke. She is a large and strongly built ship, and will be fitted up so as to accommodate 500 passengers. The *North America* was launched on the 16th inst. all her machinery except the boilers and the shafts being in at the time; and will be finished speedily.

Two steamboats will be built as soon as possible at this yard for Brooks & Barton of Savannah, to run as regular packets between Savannah and Charleston. Belknap, Cunningham & Co. are building the engines at the Phenix Works. These steamers will be small; about 500 or 600 tons burden; length, 180; beam, 27; hold, 11; cylinders, 44 inches; stroke, 10 feet. It is expected that both will be completed by the 1st day of May next.

WESTERVELT & MACKAY.

The William Tell, a fine packet ship, was launched in July by this firm. She is about 1,200 tons burden; owned by Boyd & Hincken, and under the command of Capt. Willard, formerly of the packet *Oneida*. The *Tell* is 175 feet long, 37½ beam, 32 hold. She sailed on her first voyage on the 6th of August and arrived at Havre on the 29th.

The Matamoros, is a steamship of 900 tons, built for Messrs. Morgan & Harris, and intended for the Mexican Gulf, to ply between New Orleans and Brazos Santiago. She is square rigged forward and is in all respects a strong and safe vessel. Her dimensions are: length, 215; beam, 32; hold, 18; cylinder, 56 inches; stroke, 10 feet. She engine is from the Morgan Works. The *Matamoros* is ready to be launched.

The steamship Humboldt, previously noticed by us under the name of the *Havre*, now on the stocks in this yard, and nearly ready for launching, is a splendid specimen of naval architecture. This vessel is the colleague of the *Franklin*, and will with her form a line of steam packets leaving New York once a month for Havre, touching at Southampton on the outward passage to land passengers and mails. Mortimer Livingston is the agent of the line. The *Humboldt* is 2,500 tons burden, copper fastened and iron braced; she is 280 feet long, 40 feet beam and 28 feet deep. Captain Lines, late of the *New York*, will take command of the H. The *Franklin*, Capt. Walton, is ready for sea. The engines of the *Humboldt* are in progress at the Novelty Works; they are of the side lever pattern, 95 inch cylinder, and 9 feet stroke. The cost of these ships has been stated at $500,000 each.

The steamship Placer, is in a state of forwardness that promises launching in a few weeks. She is built for Capt. Skiddy, and Davis and Brooks. She will be of 1,100 tons burden; length, 220 feet; beam, 36; hold, 24½. Stillman, Allen & Co. are building her engines.

The Rhine, a beautiful packet ship of 1,000 tons built for E. D. Hurlbut & Co's. Havre line, was launched a few days since. She will be under the command of Capt Doane, late of the *Tuskina*.—She is 106 feet long, 36 beam, and 28½ hold; she has three decks; the upper one being occupied by the cook-houses, cow-house, windlass, closets, &c., &c.

The Underwriter, thus named in complement to Walter R. Jones, Esq., will be launched in November, and it is advertised to sail on the 11th of December for Liverpool, under command of Captain Shipley, late of the *John R. Skiddy*. The *Underwriter* is to be 1,100 tons burden, a three-decker, and is very strongly built; length, 185 feet; beam, 38; hold, 22; built of live oak and cedar. She will take her place in R. Kermit's Red-Star Line of Liverpool packets.

A clipper ship is under way for A. A. Low, intended for the Canton trade, and to be placed under the command of Capt. Palmer, late of the *Oriental*.—The new ship will be 1,050 tons burden, 190 feet long, 39 feet beam, and 21½ hold; she will be one of the finest sail vessels turned out this season.

WILLIAM H. WEBB.

The Joseph Walker, on the stocks at our last report, was launched early in August; she is commanded by Capt. Hoxie, and has taken her place in Samuel Thompson & Nephew's Black-Star Line for Liverpool. As the *Joseph Walker* was built under the personal supervision of her popular and able captain, and of course everything about her done as it should be, we append a full description of her, which will be of interest to builders and owners. The arrangements for the first, second and third cabins, and for steerage passengers, are very complete. There are three sky lights to the second and third cabins, and three sky lights to the steerage, and four separate gangways to the steerage, which is well ventilated from the deck and side lights below. The cooking arrangements are complete, and are acknowledged by most shipmasters out of the port to be the best in use. On the deck is an engine of sufficient power to throw the water over the maintop gallant yard, to which is attached one hundred and twenty feet of hose. There is likewise introduced through the sides of the ship, patent valves, which will flood the hold of the ship with water, in a short time, in case of fire, or for cleansing purposes, which is one of the most useful improvements got up for ships. The forecastles are fitted up in keeping with other parts of the ship, having tables, lockers, and a place for a library in each, which, no doubt, will be supplied with interesting books. Her tonnage is 1,325 tons. The following are her dimensions: 180 feet long on deck, 50 beam, and 23 feet hold; keel white oak, two tiers deep, made in 8 pieces, 16 inches sided, and 34 inches deep, bolted together with copper bolts; stem white oak, sided 16 inches; apron live oak, sided 30 inches; night heads live oak, sided 12 inches; all fastened with large copper bolts below deep loaded line, and large iron bolts above deep loaded line. Stern post white oak, sided at head 18 inches, at keel 16 inches; inner post live oak; main and other transome all live oak, and well fastened with large bolts; fashion pieces of live oak, being double; floor timbers of white oak, 24 feet long, sided 12 to 14 inches, and molded 19 inches; first, second, and third futtocks white oak, sided 10 to 11 inches; fourth futtox of live oak, sided 10 inches; top timbers of live oak, sided 9 to 10 inches; stancheons of locust, and sided 9 to 10 inches; thirteen frames forward, and 13 frames aft; of live oak; keelsons, each end, forward and aft, of live oak; deadwoods each end, and stemsons live oak; keelsons amidships 3 tiers deep, of white oak, sided 16 inches, and making from bottom of keel to top of keelson, a mass of timber 8 feet 9 inches through, all well bolted together with 1¼ inch bolts; keelson at floor heads of pitch pine, sided 15 inches, two streaks and two tier deep, all square, fastened to frame and to each other with inch iron and 1¼ inch locust treenails; bilge streaks, seven in number, 8 inches thick; lower deck clamps 8 inches thick; ceiling between clamps and bilge streaks 7 inches thick, and all square fastened with ⅞ inch iron and 1¼ inch locust treenails, and all the outside fastenings through the same in addition to the above; ceiling on flat of floor 4 inches, white oak; lower deck beams pitch pine, 18 to 20 inches sided, and 15 to 16 inches molded; lodging and bosom knees of lower deck of white oak, sided 10 to 14 inches, and very large body and arms and fastened with 1¼ inch bolts; mast partners of pitch pine, very large and double kneed; stancheons in lower hold very large and each one kneed to main keelson, and beams with 4 knees, all well fastened; deck breast hooks of live oak and breast hooks in hold of white oak and very large, including wider breast hooks, which are all well fastened with a great number of large bolts; lower deck water ways of pitch pine, three tier and large, let down into ends of beams and fastened with three bolts in every timber, and frame ceiling between decks of pitch pine, six inches square, fastened with iron bolts and locust treenails; breast hooks between decks very large and fastened with a great number of large iron bolts; upper deck clamps of 7 inches square, fastened with ⅞ iron bolts, and 1¼ locust treenails; beams of pitch pine, sided 14 to 18 inches, and molded 12 inches; lodging and bosom knees of white oak, sided 7 inches; hanging knees to every beam, sided 10 to 14 inches, and are thoroughly bolted with 1¼ iron bolts; water ways pitch pine, and fastened to every timber and beam with 1 inch bolts; deck plank of white pine, 3½ inches thick, and bolted edgewise to water ways and timbers; planskhire and rails of white oak, 6 inches thick; forecastle beams kneed to frame of the ship, which run up high above forecastle deck, with oak knees: catheads bedded and solid in frame of the ship, and kneed to the same with large white oak knees, very heavily bolted; a very large breast hook over the bowsprit and one below it fastened with a great number of bolts; the frame, whole length of poop, is double, and each poop deck beam kneed to the same with hanging knees; poop bulkhead of white oak, 4 inches thick and bolted with a great number of bolts, and kneed to poop deck beam and upper deck beams, which are very large pitch pine. Such is a brief sketch of the way in which our world-renowned packet ships are made. The *Joseph Walker* is now on her first voyage out.

The steamship Union is just launched. She is a fine sea steamer of 1,500 tons, 212 feet long, 34 feet wide and 22 deep with two side lever engines of 65 inch cylinder and 8 feet stroke, built at the Allaire Works. Spofford & Tileston are the owners, and Capt. Budd, late of the Northerner, will command her; she will go in the New York and Charleston steam packet line.

The Samuel M. Fox is on the stocks. She is intended for Livingston's Havre Packet Line, and is named after the head of the late firm of Fox & Livingston. She will be about 1,600 tons burden, 170 feet long, 37 feet beam, and 20 feet hold; her building and furniture will be equal to those of our first class packets.

Another Packet ship, the mate of the *Samuel M. Fox*, and in all respects like her, will be built by Mr. Webb. The keel has just been laid.

The Golden Gate, a steamship of 2,000 tons burden, is going up for Howland & Aspinwall's Pacific Line. She will be launched in about three months. Her length is 275 feet; beam, 40; hold,

20; she is heavily braced, and will be finished in the most substantial manner. She is to have two oscillating engines, from the Novelty works, of 85 inch cylinder and 9 feet stroke.

A clipper ship keel has been laid for Taylor & Merrill. The vessel is intended for the Canton trade, and will be of the first class for speed. She will be 180 feet long.

JACOB BELL.

The White Squall, a beautiful clipper ship, built by this veteran, is now on her way to China via San Francisco. She belongs to Messrs. Booth and Edgar. We have lost our memoranda of her dimensions; but we believe she measures about 1,000 tons. She has been got up with an eye to speed, and will probably make one of the quickest voyages ever performed.

The Pioneer, a propeller of 2,000 tons, originally intended for a packet, is now in progress. She is a strongly fastened live oak ship, owned by Spofford and Tileston, and is to run to Liverpool—and will be the first American propeller ever employed in the European trade. The *Pioneer* will be fitted up with every convenience for the comfort and accommodation of all on board. It is estimated that she will carry 2,700 tons, drawing 20½ feet of water. Her fastenings will be thorough, with five kelsons running fore and aft. Her engines will be built at the West Point Foundry at Cold Spring; the cylinders are eights-five inches in diameter, with a five-foot stroke, the whole resting on a solid foundation of at least fifty inches in depth. Her owners feel assured of her making the passage between Liverpool and New York easily in sixteen days. She will be commanded by Capt. Eldridge, late of the packet ship Roscius, a gentleman intimately known as a thorough commander by all in the habit of voyaging between this port and Liverpool; the propeller's paddles will have a diameter of 15 feet.

A steamship keel is laid for Spofford and Tileston. The ship will measure 800 tons; length, 200 feet; beam, 32; hold, 21. She is intended to run in connection with the Southerner to Charleston. The engine is from the Novelty Works. A side lever, 70-inch cylinder, 9 feet stroke. We understand that the ship will be called *The Berry*, after the popular captain of that name.

SMITH & DIMON.

The Mandarin, launched on the day of the publication of our last report, is a beautiful clipper ship built for the East India trade. She is nearly 800 tons burden; length, 150 feet; beam, 34; hold, 19: Goodhue and Co. we believe are the owners. She is now on her outward voyage via San Francisco.

A Steamship, of 2,200 tons, the partner of the *Golden Gate*, is on the stocks for Howland and Aspinwall. She is 225 feet long, 40 beam, 20 hold. Her engines are to be made at the Novelty Works—they are like those of the *Golden Gate*, oscillating engines of 85 inch cylinder and 9 feet strode.

WILLIAM H. BROWN.

The Pacific, a splendid steamship, was launched a few days since, her engines being in working order, and steam up. (Mr. B. had launched two boats in running order in January last.) The Pacific made a trial trip on Wednesday last, and proved herself all that could be anticipated, running past the British steamer *Asia*, the bragging ship of the Cunard line, with perfect ease. The P. was built for Capt. Jarvis and others; Capt. J. will take command, and expects to get off in a few weeks.—The dimensions of the vessel are; length, 230 feet; beam, 31; hold, 19; tonnage, 1,200. Her engine, one of the upright pattern, was built by H. R. Dunham; cylinder, 70 inches; stroke, 10 feet. The *Pacific* bids fair to be one of the most rapid vessels yet sent to the Western Coast.

A steamer is now under way at Mr. Brown's yard, under the superintendence and to be commanded by Capt. Dunn, late of the ship America. She is intended to run on the Sacramento, is 400 tons, burden, 170 feet long, 26 wide and 10½ hold. Her engine, built by J. F. Rodman, is now on board; it is 35 inch cylinder and 10 feet stroke.—She will be launched in the course of two weeks, with steam up ready for a start.

Another steamer, for the Pacific trade, is under way; she is 215 feet long, 28 wide and 10 feet deep; burden, 600 tons. J. E. Coffee is building her engine, a 42 inch cylinder with 9 feet stroke, which will be put in before she is launched, so that she, too, may go into th water with her paddles in motion.

To be continued.

From the Glasgow Practical Mechanics' Journal.

Improvements in Forging Iron.

BY JAMES NASMYTH, ESQ.

Continued from page 613.

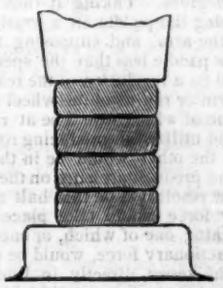
Mr. Nasmith next proceeded to describe the second part of his improvements in forging iron, which consist of means of producing sound boiler plates. He perfected the description of his improvements on this truly important subject, by detailing the nature of the most frequent cause of unsoundness of iron forgings generally, and in boiler plates in particular, namely, the imperfect expulsion of the molten oxide of iron or scoria, or cinder as it is termed, which, in every case of welded hot iron, covers and clings to the surface of the metal, and if left, interposing between the welded surfaces, is certain to occasion a defect, greater or less, according to the surface of junction it occupies. The frequency of this interposing scoria, as the true cause of unsound forged work, was forcibly alluded to, and shown to be the most fertile source and cause of the failure of wrought iron work, resulting, as such too frequently does, in the most sad and disastrous accidents, such as the failure of the links of chains and anchors, and in the costly and often distressing casualties arising from defective or blistered boiler plates. With respect to the links of chains, he mentioned, as the result of an extensive series of experiments on the strength of chain cables, on which, as a member of the committe on metals, he was employed by the Admiralty, that out of every ten cases of fracture, eight were occasioned by defective welding, as evinced by the appearance of the surfaces, showing that the oxide or scoria had not been duly expressed.

Mr. Nasmyth further described the condition absolutely requisite to perfect welding, namely, not merely that the surfaces we desire to weld should be really welding hot, but also that, when brought into contact, no particle of the scorta, which inevitably clings to the metal while welding hot should be permitted to remain interposing between such surfaces. If such material is left interposing, we are certain to have defect and unsoundness to a greater or less extent as the result.

In order the more clearly to detail his improvements on this important subject, a colored drawing, representing the usual form and arrangement of a pile of slabs, such as are employed in forging, when welded together, a mass of iron from which boiler plates or bars of iron are rolled, was exhibited. Fig. 4 represents such a pile of slabs, which having been, as is generally the case, produced under the action of a forge hammer and anvil, having flat—or, as is generally the case, slightly convex surfaces, cause the slabs so produced to have certain hollow or slightly concave portions of their surfaces, so that when piled one upon the other, as in fig. 4, the risk of having hollow spaces between

Fig. 4.

Hammer.



Anvil.

is almost certain. The hollow spaces are represented in the figure by the dark irregular lines between the slabs.

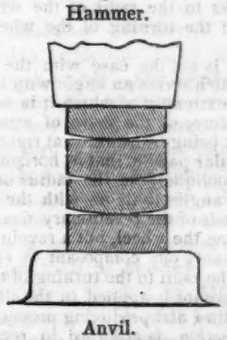
Referring to fig. 4, A B C represent a pile of four slabs laid on the anvil welding hot. Owing to the *concave* irregularities of the surfaces, the parts most certain to come into contact first, are generally the exterior edges of the slabs. The effect of the blows of the hammer is first to weld the parts in natural contact; and, by continuance of the blows, the interposing scoria or cinder is expressed in a degree more or less perfectly, according to the energy of the blows, and the deepness of the convex or hollow patches between the slabs. So long as there exists an exit or passage for this scoria, all is well; but, as generally happens, some portion of this scoria lurks behind, after all chance of escape is removed by the welding of the exterior portion of the surface of the slabs, The result of this is, that we have, to a certainty, a defect greater or less in amount, according to the quantity or surface over which the *enclosed* scoria extends. Once such scoria is shut up between the surfaces of the slabs, no amount of after hammering will ever expel it, but, on the contrary, will only tend to its extension over a larger surface; and, as before said, so long as a particle of this scoria is left interposing, so long have we a degree of unsoundness in proportion.

Great as this evil is, and common as it is as a fertile cause of defective iron work, and the more especially so in the case of boiler plates, the means of avoiding such source and cause of defect is as simple as the results are important; and it is to be hoped, that the free and open communication which Mr. Nasmyth has made of his views on this subject, will be answered in the most acceptible way by the general adoption of the improvement. These improvements consist simply in so forming the surfaces which we desire to weld together, that a free exit may be preserved to the last, for the escape of the molten oxide or scoria, until the entire surfaces of the parts we desire to weld are thoroughly incorporated by the welding property, aided by the action of the hammer or rolls, as the case may be.

In order to accomplish this most important and desirable object, the surfaces of the slabs are made *convex* (see fig. 5,) by which most simple means a

Fig. 5.

Hammer.



Anvil.

perfectly free exit to the scoria or interposing impurity is maintained to the last moment—the welding commencing at the central part of the contact, A, and extending outwards towards the edges, under the action of the successive blows of the hammer or squeeze of the rolls; but, as before said, an open door is kept for the escape of the scoria, until the surfaces unite *from* the centre, A, *to* the outside edge, B B. Here, then, by an arrangement or formation of the surfaces, we have the most certain and simple means of procuring a solid sound mass of iron, which, when beaten, hammered, or rolled down to whatever thickness we desire, will retain to the last all the qualities of one sound solid mass.

From the Journal of the Franklin Institute.

INVESTIGATION OF THE COMPARATIVE MERITS OF THE PERPENDICULAR AND RADICAL PADDLE WHEELS FOR SEA-GOING VESSELS.

By B. F. Isherwood, Esq., Chief Engineer U. S. Navy.

Continued from page 612.

If now, however, the paddles be made to enter, traverse and leave the water perpendicularly, the loss by oblique action is avoided; and if the centre of reaction (which will be as before, one-third the width of the paddle from the outer edge) have no slip, the portion of surface between it and the outer edge of the paddle having the same horizonal velocity, will operate no displacement. Furthermore,

by this arrangement, the same absolute paddle surface will propel with less slip than in the radiating paddle, by the difference between the projections of the surfaces horizontally, the perpendicular paddle having its whole surface acting, while the radiating paddle acts but by that surface multiplied by the cosine of the angle under which the paddle strikes the water. For equal slips, then, less absolute propelling surface is required in the perpendicular than in the radiating paddle.

As oblique action is avoided with the perpendicular paddle, and as the losses of labor ocasioned by the radiating paddle are slip and oblique action, and as slip is affected by depth of immersion, and as depth of immersion with the radiating paddle is only restricted by the oblique action—it might be supposed, and has been so supposed by many, that the perpendicular paddle wheel could be immersed advantageously nearly to the axis. This is, however, far from being the case, and for the following reasons:—

With the radiating paddle wheel composed of a number of paddles set around on the periphery *radially*, their propelling efficiency depends on their *horizontal velocity*. Suppose a horizontal line drawn tangential to the lowest point of the periphery of the wheel, and from the centre of pressure of each paddle a perpendicular be let fall upon it, the distances between the intersections will represent relatively the horizontal velocities of the paddles. Now, it is evident that such paddles as have a *less* horizontal velocity than the velocity of the vessel, so far from propelling, carry a mass of water before them; this mass of water, however, occasions no further loss of labor than that due to its friction on the paddle surface and wheel shaft journals, (a very inconsiderable quantity,) because action and reaction being equal and in opposite directions, the reaction of this mass of water on the paddle produces a force acting at right angles to the *radial* paddle, equal to what was communicated to it by the paddle, and the reactionary force at *right angles* to the radii of the wheel turns the wheel, and the turning of the wheel propels the vessel.

But this is not the case with the perpendicular paddle, which forms an angle with the arm or radius at the extremity of which it is set; and the reactionary force of the mass of water carried forward by it being transmitted at right angles to the perpendicular paddle, that is, horizontally, and consequently obliquely to the radius or arm, instead of at right angles to it, as with the radiating paddle, the *whole* of the reactionary force is not applied to turning the wheel, but a revolution of it takes place, and only one composant is applied at right angles to the radii to the turning of the wheel—the other composant is applied in the direction of the arm or radius, and producing pressure on the shaft in that direction, is absorbed in retarding the advance of the vessel and in lifting it out of water.—The proportion of power producing motion in the wheel compared to that lost in retarding the advance of the vessel, and lifting it, will be as the cosine to the sine of the angle under which the arm strikes the water.

It is plain, then, that by increasing the immersion of the perpendicular paddle wheel until the horizontal velocity of the entering paddle is less than the velocity of the vessel, a loss of labor is experienced by part of the reactionary force of the mass of water carried before the paddle being expended in pressure on the shaft, instead of the whole of it being expended, as in the radial paddle wheel in turning the wheel. We therefore reach the economical limit of immersion with the perpendicular paddle, as far as the reactionary force is concerned, when the entering paddle has a *less* horizontal velocity than the velocity of the vessel. To have, then, a deep immersion with the perpendicular paddle wheel without encountering reactionary loss, it must be constructed with such amounts of surface as to give a normal slip for that immersion will determine the horizontal velocity of the entering paddle, and in order that the velocity of the vessel shall not exceed this, the paddles already in the water, and having from their positions greater horizontal velocities, must have correspondingly greater slips, in order that none of the reactionary force upon the wheel be lost; but in practice, it will be found proper to ascertain the minimum of all the losses; that is, the minimum of the losses by the deficit of the reactionary force and by the slip of the paddles.

With a paddle wheel of 28 feet extreme diameter and 5½ feet immersion, the slip of the centre of reaction must be about 33 1-3 per cent., in order that there be no loss of reactionary force by the entering paddle; that is to say, in order that the entering paddle carry no mass of water before it. If a slip of about 20 per cent. be given to such a wheel, the immersion must not exceed 3½ feet, in order to fulfil the above requirement. Notwithstanding this, however, the loss of labor by the loss of a portion of the reactionary force is sufficiently small, with the deep immersions and slips found in practice, to allow a gain by the suppression of the loss by oblique action. Of course, actual experiment or calculation only can determine this amount and the conditions under which equilibrium obtains between the different losses and gains. Independently of the economical results that may arise from the use of the perpendicular paddle, in function of form, there are some important practical advantages connected with its use. The principal one consists in the fact, that a narrower wheel can be used with the same area of paddle, the only limit to the breadth of paddle being the depth of its immersion. In the "Medea," a vessel displacing over 100 tons, the paddle is 40 inches by 5 feet, because the acting movement of the paddle is wholly horizontal, and the slip is the same for the whole paddle as for the centre of reaction. With such a wheel, the proper proportions of paddle would be the greatest breadth permitted by the immersion; and as this would give an excess of propelling surface, were the usual number of paddles used, as is customary with the radiating paddles, this number can be reduced very considerably; so much so, in truth, that the paddles can be placed at such a distance apart as will allow only so much surface to be always in action as may be necessary to prevent too great irregularities of motion. This distance can be much greater than with the radial paddle. The paddles on opposite wheels should of course *break joints*, or alternate with each other, with a view to preserving this regularity of action. The practical advantages may be briefly summed up thus:—The wheel of equal propelling efficiency would have but about two thirds the weight of the ordinary wheel, and half its width, diminishing the leverage upon the guard timbers and the strain upon the ship. By reason of the greater narrowness, there would be in the rolling of the ship less depression of the leeward and less rising of the weather paddle, with of course less irregularity of motion than with the radiating paddle. By avoiding the oblique action of the radial paddle, a very destructive strain upon the ship is also avoided, for the practical effect of the oblique action of the radiating paddle is to forcibly tear the sides from the bottom of the ship.

Let us consider generally the greatest loss of the reactionary force that will occur with the paddle in its most unfavorable position. That position will evidently be the one occupied by the entering paddle, because the obliquity of the radius of the wheel to the surface of the water is here greatest.—In the deepest immersions this obliquity does not exceed 45 degrees. Taking it then at 45 degrees, and supposing the paddle in a vertical position at the end of the arm, and supposing the horizontal speed of the paddle less than the speed of the boat; there would be a resolution of the reactionary force upon the arm or radius of the wheel into two equal portions, one of which would be at right angles to the arm, and utilized in producing rotary motion in the wheel; the other would be in the direction of the arm, and produce pressure on the shaft;—at the shaft, a new resolution of this half of the original reactionary force would take place in two equal portions again; one of which, or one-quarter of the original reactionary force, would be opposed to the motion of the vessel directly in line of keel; the other, at right to the first, would lift the vessel, and consequently be utilized in decreasing the immersed amidship section and displacement of the vessel. This result, however, is too small to be appreciable in practice, and is proved to be so from the fact that the caps of the outward pillow blocks of the shaft are not pressed down to bear on the top of the shaft journal, but have generally a clear space of half an inch or more left between. Indeed, in many steamers there are no caps at all to these pillow blocks. It is evident now, that with this arrangement, were the action of the lifting force appreciable in raising the vessel, the shaft would be lifted out of its outboard pillow blocks; but observation shows that it has no perceptible lifting at all. The vertical resistance of the water is so small compared with the resistance of the weight of the wheel, shaft, &c., that the power expended vertically, displaces the water instead of lifting the vessel. As far then as practical results are concerned, the lifting force cannot but be considered as lost labor. We find, then, that even in the most unfavorable case occurring in practice, the loss with the perpendicular paddle is the sum of the reactionary and lifting forces, which being 25 per cent. each, make a total of 50 per cent.

Mobile and Chicago Railroad.

AN ACT granting the right of way, and making a grant of land to the states of Illinois, Mississippi and Alabama, in aid of the construction of a railroad from Chicago to Mobile.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the right of way through the public lands be, and the same is hereby granted to the state of Illinois for the construction of a railroad from the southern terminus of the Illinois and Michigan Canal to a point at or near the junction of the Ohio and Mississippi rivers, with a branch of the same to Chicago, on Lake Michigan, and another via the town of Galena, in said state, to Dubuque in the state of Iowa, with the right, also, to take necessary materials of earth, stones, timber, &c., for the construction thereof: Provided, That the right of way shall not exceed one hundred feet on each side of the length thereof; and a copy of the survey of said road and branches made under the direction of the Legislature, shall be forwarded to the proper local land offices respectively, and to the General Land Office at Washington City, within ninety days after the completion of the same.

SEC. 2. *And be it further enacted*, That there be and is hereby granted to the state of Illinois for the purpose of aiding in making the railroad and branches aforesaid, every alternate section of land designated by even numbers, for six sections in width on each side of said road and branches; but in case it shall appear that the United States have, when the line or route of said road and branches is definitely fixed by the authority aforesaid, sold any part of any section hereby granted or that the right of pre-emption has attached to the same, then it shall be lawful for any agent or agents to be appointed by the Governor of said state to select, subject to the approval aforesaid, from the lands of the United States most contiguous to the tier of sections above specified, so much land in alternate sections or parts of sections, as shall be equal to such lands as the United States have sold, or to which the right of pre-emption has attached as aforesaid, such lands being equal in quantity to one half of six sections in width on each side of said road and branches, the state of Illinois shall have and hold to and for the use and purpose aforesaid: Provided, That the lands to be so located shall in no case be further than fifteen miles from the line of the road, And further provided, The construction of said road shall be commenced at its southern terminus, at or near the junction of the Ohio and Mississippi rivers, and its northern terminus upon the Illinois and Michigan Canal simultaneously, and continued from each of said points until completed, when said branch roads shall be constructed, according to the survey and location thereof: Provided further, That the lands hereby granted shall be applied in the construction of said road and branches respectively, in quantities corresponding with the grant of each, and shall be disposed of only as the work progresses, and shall be applied to no other purpose whatsoever. And provided further, That any and all the lands reserved to the United States by the act entitled, "An act to grant a quantitly of land to the state of Illinois, for the purpose of aiding in opening a canal to connect the waters of the Illinois river with those of Lake Michigan, approved March second, eighteen hundred and twenty-seven," be and the same are hereby reserv-

ed to the United States from the operation of this act.

Sec. 3. *And be it further enacted*, That the sections and parts of sections of land which by such grant, shall remain to the United States, within six miles of each side of said road and branches, shall not be sold for less than double the minimum price of the public lands when sold.

Sec. 4. *And be it further enacted*, That the said lands hereby granted to the said state shall be subject to the disposal of the Legislature thereof, for the purposes aforesaid and no other; and the said railroad and branches shall be and remain a public highway, for the use of the government of the United States, free from the toll or other charge, upon the transportation of any property or troops of the United States.

Sec. 5. *And be it further enacted*, That if the said railroad shall not be completed within ten years, the said state of Illinois shall be bound to pay to the United States the amount which may be received upon the sale of any part of said lands by said state, the title to the purchasers under said state remaining valid; and the title to the residue of said lands shall re-invest in the United States, to have and hold the same in the same manner as if this act had not been passed.

Sec. 6. *And be it further enacted*, That the United States mail shall at all times be transported on the said railroad, under the direction of the Post Office Department, at such price as the Congress may by law direct.

Sec. 7. *And be it further enacted*, That in order to aid in the continuation of said central railroad from the mouth of the Ohio river to the city of Mobile, all the rights, privileges, and liabilities hereinbefore conferred on the State of Illinois, shall be granted to the States of Alabama and Mississippi respectively, for the purpose of aiding in the construction of a railroad from said city of Mobile to a point near the mouth of the Ohio river, and that public lands of the United States to the same extent in proportion to the length of the road on the same terms, limitations and restrictions in every respect shall be, and is hereby granted, to said States of Alabama and Mississippi, respectively.

Howell Cobb,
Speaker of the House of Representatives.
Willliam R. King,
President of the Senate pro. tempore.
Millard Fillmore.

Approved September 20, 1850.

Catasaqua, Pennsylvania.

In 1839 several enterprising citizens of Philadelphia, determined to erect a furnace for the manufacture of anthracite iron, a process which had then been only recently discovered and brought into use by Mr. Crane, in England. They selected a piece of ground on the line of the Lehigh canal, three miles above Allentown, in Lehigh county, in which iron ore of excellent quality and limestone were found in close proximity. Late in 1839 the timber was cut from the ground, and in 1840 a furnace was erected capable of producing 4000 tons of pig metal annually. During that summer we visited the place and found the furnace had just been blown in. Three or four houses had been erected that year and several others were in progress for the workmen, being the only buildings within some distance of the place. The experiment succeeded, and under the tariff of 1842, the proprietors erected that year another furnace to produce 5000 tons, and another in 1846, propelled by steam, of 7200 tons. In 1849 two additional furnaces of 8000 tons each were commenced, which were completed early in 1850, and put into blast. These works all belong to the same proprietors, the "Crane Iron Co."—During a summer excursion we visited this place in July last, and found it had become a large town, erected entirely for those dependant upon and engaged in these works.

This is another evidence of the advantage of encouraging our home manufactures. Under the present tariff, enacted to benefit *Great Britain*, all our furnaces, except those advantageously located, must stop, unless prices advance, and nearly all the rolling mills have already suspended operations, by which suspension thousands of hardy and industrious mechanics have been thrown out of employment.

We have obtained from the late census returns the following interesting particulars in relation to this place, which in October, 1839, was covered with forest trees. Adjoining it is Burysport, of which we have not received the census returns.—It, too, is dependant upon these furnaces for employment, and contains a population of 400 or 500 persons, principally employed in these works.

	No. of men employed.	Number of horses.	No. persons dependent.	Number of children.
At works	178	25	561	230
At mines and hauling	143	174	432	212
" in New Jersey.	40	20	140	60
Miners in coal	120	30	320	140
Limestone quarry	16	14	40	16
Coal boatmen	32	24	80	16
Ore boatmen	26	13	55	13
Iron boatmen	34	34	85	34
Total	589	334	1715	721

The whole population of Catasaqua is 885, viz: 245 from Ireland; 68 from Wales; 32 from Germany; 9 from England; 4 from Scotland; and 527 were born in the United States. Number of houses 154. Cost of ore, coal and limestone consumed $250,000. In 1850 the product of these furnaces will be 25,000 tons.—*Philad. Com. List.*

Ohio.

The Railway Loans Settled.—The City Council on Friday night acted finally upon the propositions to loan the credit of the city in aid of the construction of various railways, to connect with the city. We understand that there were five applications for aid before the council, and the council has wisely, we think, determined to submit *four* out of the *five* to a vote of the electors at the annual elections. The total amount of aid proposed by council is one million of dollars, to be divided as follows:

To the Ohio and Mississippi railway	....	$600,000
Hamilton and Eaton	"	150,000
Belpre	"	150,000
Covington and Lexington	"	100,000
In all		$1,000,000

The St. Louis appropriation was agreed to by a vote of 25 to 8; the Hamilton and Eaton by a vote of 26 to 7; the Belpre by a vote of 28 to 5; and the Lexington by a vote of 25 to 8.

This almost unprecedented unanimity in council, in favor of these loans, we think reflects the feeling of the people, and indicates a like unanimity in the final vote of the electors. We think a decided majority *will be polled in favor of the loans, and that such a vote will be right and proper.* Council has at last done its duty in submitting these propositions to the vote of the people—and this has been done deliberately, and with reasonable fairness. Let this fair action in council be followed by a deliberate and fair vote of the electors, and we have no doubt what the result will be—no doubt that the city will make the loans proposed to each and to all the roads named.

The rejection of the proposition of the Connersville company, was occasioned, as we understand, more by considerations growing out of their imperfect organization, their uncertain preliminary surveys, and the want of information of the amount raised on that line, by the subscription of individuals to its stock, than to any settled conviction of the inutility of a railway on that line. Some few regard the line to Indianapolis and the Northwest, as a rival to the St. Louis or Southern line. We are not among those. We look upon both as important. We believe that on both lines good roads can be, and will be ultimately, constructed—that there is business enough for each, without interference or rivaly—and that both are important to the trade and interest of the city. Let this company complete their surveys, and increase the subscription of individuals along the line to their stock—let them ascertain what they can do themselves, and if they fall short and really need the aid of the city to enable them to prosecute a work shown to be useful and profitable, they will be able to present their claims to the city with a good prospect of success. And we hope no friend of this road will oppose either of the loans now to be voted for by the electors. Such opposition will be injurious to the interest of the city, and put an end to all hope of city aid to that company.

No one can question the importance of either of the roads we are now asked to aid, nor will any one believe that too large a sum is proposed for either. Let us then respond to the call of council readily, cheerfully, with heart. Let us grant the aid required.—*Cincinnati Gazette.*

Ohio.

Cincinnati, Hamilton and Dayton Railroad.—The work on this important line of road progresses rapidly though quietly. Operations on the line were slightly interrupted by the cholera, but there is now a large force actively engaged on it. The contractors are very energetic, and there is a moral certainty that the cars will be running from this city to Hamilton, early next season. The iron, the heavy T, is on the ground, ready to be laid down as soon as the grading is completed and settled, and the masonry shall be finished. The *Pioneer* locomotive is already finished by Mr. Harkness, and a splendid one it is. It will be immediately placed on the track to facilitate the work. The difficulties, at one time so threatening, relating to the right of way on this road, have been removed, and there is nothing now in the way of a speedy completion of this part of the line, in the very best manner.

The line between Hamilton and Dayton is all contracted for by the most able, experienced and energetic contractors, and they are working a large and efficient force on various parts of it. There is little doubt now, that in the course of the next season, the road will be finished and in full operation the whole way to Dayton. It is designed to have the road between this city and Dayton *the best in the United States*—one on which you can make the greatest speed with the least wear or danger from grades or curves.

A line of the same character is about being finished from Dayton to Springfield, connecting this city by way of Dayton, with the lakes. The railway from Hamilton by way of Eaton to Richmond, Ind., is in rapid progress, and with the aid of the city, will all be completed during the next year.—This will connect the rich country along its line with Cincinnati, by the Hamilton road. The coming business of the lower Miami valley, will greatly enhance the value of real estate.

This great work—for the railway from this city to Dayton really is a great work—was commenced, and has thus far been carried on by individual enterprise and capital. Not a dollar of stock has been taken by the city or by any public body. The whole has been taken as an *investment*, by men of capital and judgment, who know well where to look for *good and certain proofs*. In securing this stock they have made an investment where *the dividends must, inevitably, be large and certain*. Every payment, by subscribers on stock in this road, draws 8 per cent. per annum interest until the road is completed. After the cars are on the road, stockholders will receive dividends instead of this interest; and, liberal as is the interest, we shall be more mistaken than we ever were, if the regular annual dividend on this stock is not larger. The capitalist who shall hold this stock, has an investment which must be undoubtedly *safe* in all time to come, and which cannot fail to yield a large dividend.—In this there can be no mistake.—*Cin. Gaz.*

Virginia.

We learn from the Farmville Republican that the board of directors of the Southside railroad co. determined at a late meeting to make Farmville a point in the line of their road to Lynchburg, on condition that the town and its vicinity would subscribe the sum of one hundred thousand dollars.—The editor urges upon the people of that section to raise the amount, and depicts in very warm colors, the immense advantages that would result to them in the event of the construction of the road.

While our sister town of Petersburg is making such strenuous efforts to promote her own interests, by securing the vast trade which the Virginia and Tennessee road will pour into Lynchburg, does it not behove Richmond to be on the alert, and take care that she is not outstripped in the race by her weaker competitor? There is much reason to believe that a railroad connection will soon be established between Petersburg and Lynchburg, and should this occur, it will give her an advantage at the start, which we may find it difficult to overcome. A road from Lynchburgh to some convenient point on the Richmond and Danville road, is essential to place us upon a footing of equality in the competition for the immense trade and travel of the southwest. Speedy and concerted action should at once be had among its various friends, preparatory to a successful application to the Legislature next winter for a charter. Southwestern Virginia has exhibited a friendly co-operation, which if met by a corresponding spirit here, will secure the construction of a work equally beneficial to Richmond and the state at large. It would be very unfortunate for our city, if the capitalists here should permit the scheme to perish for the want of proper aid and encouragement.—*Rich. Whig.*

Railroad Iron.—The president and directors of the Orange and Alexandria railroad company, have made a contract for the delivery of 2,500 tons of rails, of the bridge pattern, designed for the middle section of the road, similar to those already purchased for the eastern section. This will complete the road to Culpepper Court House. The price paid for this iron is $38 per ton of 224 lbs. It is manufactured in Great Britain, and will be delivered in Alexandria.

New York.

Erie Railroad.—The traffic on this road for September is as follows:—

Passengers and mail	$87,117 68
Freight	62,899 89
Total	$150,017 57
September, 1849	77,688 45
Excess in 1850	$72,329 12

The aggregate receipts from January 1 to September 30th, were.....$1,139,595 27
Same time, 1849..... 526,688 94

Excess in 1850..... $612,906 33
Equal to nearly 120 per cent.

Attica and Hornellsville Railroad.—There is no longer any doubt of the speedy completion of the railroad from Attica to Hornellsville. The committee appointed by the new stockholders to complete arrangements with the former board of directors, accomplished their object on Friday last, and subsequently elected the following gentlemen as the new board:—A. D. Patchin, R. H. Heywood, Buffalo; J. G. Hoyt, B. R. Folsom, Attica; I. C. Bronson, Warsaw; G. B. Chase, Castile; M. Woodruff, Gainesvil; H. O. Brown, Genesee Falls; B. Bagley, Nunda; S. Swain, Jr., Portage; John Smith, Burns; Judge Bailey, Hornellsville; J. S. Wadsworth, Geneseo.

A meeting of the directors will be held in Warsaw on the 9th of October, at which arrangements will be made for putting the road under contract immediately.—*Buff. Com.*

Maryland.

Baltimore and Ohio Railroad.—The board of engineers appointed by the executive of Virginia, to determine the matters in dispute between the city of Wheeling and the Baltimore and Ohio railroad company, have decided that the Grave Creek route is the true and proper route under the law of 1847, and the agreement with that city. By this decision, the point at which the road will first strike the Ohio river will be the mouth of the Big Grave Creek, twelve miles below the city of Wheeling. The road is now under contract from that point; and the remaining forty miles heretofore suspended will be put under contract immediately, when the whole line will be in the hands of contractors.

Connecticut.

New Haven and New London Railroad.—At a meeting of the citizens of New Haven, held at Boardman's Hall, Thursday evening, September 12th, 1850, for the purpose of hearing the report of a committee appointed to report upon the New Haven and New London railroad, and for the purpose of devising measures for the sum allotted to the city of New Haven towards the subscription for building said road, Hon. William W. Boardman was called to the chair, and Henry G. Lewis, Esq., appointed secretary. Ralph D. Smith, Esq., from the committee, made a report, showing the cost of the road to be $1,200,000, and the receipts $263,000, from local business of the road only, with many other interesting particulars, which will be laid before the public hereafter. The meeting was further addressed by Messrs. Boardman, Skinner, Smith, Griffin, and resolutions passed approving of the project, and a committee, consisting of the following persons, appointed to receive subscriptions:

Wm. W. Boardman,	James Brewster,
A. N. Skinner,	John S. Griffin,
Caleb Mix,	Timo. Dwight,
J. B. Carrington,	N. A. Cowdrey,
H. G. Lewis,	E. A. Mitchell,
Benj. Noyes,	John S. Graves,

Elias Pierpont. [*Palladium.*

New Brunswick

The Railway.—It appears that the government of Nova Scotia think of undertaking the railway on Provincial account. By this means, certainly the expenses, like the benefits, fall on the whole community, and "all hands" are forced to contribute to the common good.

We learn that the directors of the Dublin and Galway railway have taken the matter up warmly, as indeed was to have been expected, for the scheme offers as many advantages to Ireland as to New Brunswick and Nova Scotia.

We learn that the subscription for stock is progressing in quite a satisfactory manner—not fast enough, of course, to satisfy the sanguine, but as fast as is consistent with a prudent forethought as to "ways and means." Our folks have not been accustomed to the large sums required for such an undertaking, and have to think twice before subscribing. All those, however, from whom public spirit could have been expected, or who were supposed to have common sense enough to "throw a sprat to catch a mackerel," are coming to the front with larger amounts than any one counted on.—Those who have the best means of knowing, calculate that the subscriptions for this city will come well up to £100,000.

It is the general opinion, that if the legislature of Nova Scotia is called together, ours also ought to meet, as it is of great importance that the question of charters, grants, and aid, should be speedily settled.—*St. John Courier.*

Maine.

Kennebec and Portland Railroad.—By an act of the Legislature of this State, at its last session, several of the most important towns upon the line of this road were authorised to loan their credit to the amount of $800,000 for its completion. The vote of the towns that have already acted under this law is as follows:

	Yea.	Nay.	Amount voted.
Augusta	908	47	$200,000
Gardiner	641	313	150,000
Bath	645	181	200,000
Hallowell	363	178	100,000
Brunswick	588	252	75,000
	3145	971	$725,000

In the aggregate more than three fourths of the votes are in the affirmative.

The towns of Topsham, Bowdoinham and Richmond are to supply the balance, which we learn they will do without a doubt.

In relation to this loan the Kennebec Journal says:

As the town and city scrip to be issued will run twenty years, the money can undoubtedly be obtained upon it at 5 per cent., and perhaps lower.—Had the company been obliged to raise it upon personal security or upon a mortgage of the road, 10 or 12 per cent. must have been given. The difference between 5 and 10 per cent. on $800,000 is $40,000 annually—a sum which will now be saved to the company; and by this favorable arrangement the stock is rendered of present and increased value to its owners, and the small stockholders are saved from the necessity of sacrificing their shares. The towns and cities are amply secured. It will require a gross receipt of only about $75,000 per annum from the business of the road to pay a net profit of $40,000, which is sufficient to pay the interest. We think the receipts will double that.

Maryland.

Wheeling and Baltimore and Ohio Railroad.—Under a law of this state, passed in March, 1847, and a contract between the city of Wheeling and the Baltimore and Ohio railroad company, made in July of the same year, that railroad company became bound to construct their road to Wheeling, and to fulfil certain conditions as to the route near the western terminus. The company proceeded to make surveys, and adopted a route touching the Ohio river at the mouth of Fish Creek, twenty-three miles south of Wheeling. The city insisted that such a route would be injurious to her, and was not in accordance with the law and agreement. A controversy arose and was finally brought before the legislature at its last session by the city of Wheeling. The General Assembly passed an act authorising the governor to appoint a board of competent and experienced engineers to decide upon the matters in dispute.

The Governor performed that duty with admirable judgment. The board consisted of Professor D. H. Mahan, of the West Point Military Academy, Major M. Lewis Clarke, of Missouri, and Wm. Raymond Lee, Esq., of Massachusetts—all gentlemen of the highest character for scientific attainments, capacity and integrity. They, have, within the last few days, unanimously decided the controversy in favor of the city of Wheeling.

The disquisitions of engineering questions which

were laid before the board by Benjamin H. Latrobe, Esq., Chief Engineer of the company, and Charles Ellet, Jr., Esq., Civil Engineer, for the city, are said to have been in the highest degree creditable to the learning and ability of those distinguished gentlemen. Printed arguments were also presented to the board by the counsel of the parties—J. H. B. Latrobe, Esq., for the company, and Charles M. Russel, Esq., of Wheeling, for that city.

Mr. Ellet had the assistanee of the eminent engineer, Jonathan Knight, Esq.; and in the course of the controversy, a learned and lucid opinion upon the professional questions was written and published by J. H. Alexander, Esq., of Baltimore, Civil Engineer, at the request of Wheeling.

The subject has engaged the constant attention of the board for about three monts, and their decision of this interesting and highly important issue, will command the active confidence and respect of the state and the public. The effect of it will be to require the company to construct their road by way of Grave Creek, so as to strike the Ohio river near Wheeling, and to secure to that city the benefits of the western terminus. It is of the first importance to the flourishing metropolis of Northwestern Virginia, and to the interests of this commonwealth. It will be very gratifying also the friends of Mr. Ellet, whose opinion on the subject was before the Legislature last session, and who has since sustained the views then presented by papers of a more scientific cast, which prove him to belong to the highest class of his profession.—*Richmond Whig.*

Ohio.

A mass meeting of the citizens of Gallia county, Ohio, and the Kanawha region in Virginia, will be held at Point Pleasant Virginia, on the 2d of October, to consider the feasibility of extending the Central Virginia railroad through the valley of the Kanawha to Gallapolis, and thence via Jackson and Chillicothe to the interior of Ohio.

Georgia.

The Savannah Republican, in an article upon the capacity of the South for increased production of cotton, says:

It appears to us that these apprehensions overlook the immense capacity of the South to increase her culture of cotton. A prodigious quantity of fine lands in the South yet remain in a state of nature, and the laborers are growing up to work them. The State of Georgia alone is capable of making up a very large fraction of the existing deficit, and she has an immense extent of excellent land for the production of cotton, on which the primeval forests still stand. Add to this that her old and neglected fields are now fast being reclaimed, and that many a fire is re-lighted on long deserted hearth stones. These facts conduct us to one source of increase not yet sufficiently appreciated, neither at home nor abroad. The railroads of Georgia have given an astonishing impulse to production. It is through accessibility to markets, through her railroads, that she has attained to such a proud ascendancy over other Southern States. Within two years and a half at the most, Georgia alone will have more than 300 additional miles of railroad added to her present roads, and penetrating regions of almost incalculable ability to produce cotton. As the figures look large to some, we will specify these roads.—They are:

South western railroad	52 miles.
Savannah and Augusta railroad	51 "
Milledgeville and Gordon railroad	17 "
" Eatonton road	22 "
Muscogee railroad, from Columbus to the point where it intersects the Southwestern	72 "
Atlanta and West Point railroad	86 "
In all	300 miles.

And yet we have not told all, for we have neglected to add the Wilkes County railroad 22 miles, and that portion of the Georgia and East Tennessee road lying within the borders of Georgia. Nor have we adverted to the Griffin and other plank roads in progress or projected.

But Georgia does not stand alone. The march of improvement has overstepped our borders and is penetrating those cotton growing States to the west and north of us. The Girard and Mobile road alone will bring into cultivation one of the largest and best cotton regions in the South, hitherto overlooked, or rather lying neglected by reason of its remoteness from a market. Every where in the South there are indications of an increased production of cotton.

Canada.

Toronto and Huron Railroad.—On Saturday we stated that a number of influential individuals had subscribed large sums in addition to the sums for which they may be made liable for their proportion of the proposed tax on the city, if it should be adopted. In addition to that list we give the following: J. H. Cameron, Strachan, Allan, Vankoughnet, Haworth, J. C. Bettrige, Betley & Kay, H. Fowler, M. P. Hays, John Arnold, James McDonald, M. Rossin & Brother, J. G. Joseph, Patton & Co., John Robertson, J. Henderson, J. W. Skelton, A. & S. Nordheimer, J. Watson & Co., G. Duggan (free gift), John Salt—making in all upwards of £7,000. After such a list as this on the part of the citizens, the least we can expect to be able to communicate in our next, is a very liberal subscription from the directors themselves, in order to meet the citizens half way. If that is dome, the success of this line of railroad will be placed beyond doubt.—*Colonist.*

Pennsylvania.

Lebanon Valley Railroad.—The prospect of organising a company to construct this road, not very flattering heretofore, appears to be brightening. A meeting of gentlemen interesting in prosecuting the work was held in this city a week or so ago, at which measures were taken to authorise an immediate survey of the route. Engineers, it is said, are engaged, who will commence a survey forthwith, and in a month or so more we may look for their report, estimate of the probable cost, etc. At the meeting referred to, the opinion was expressed by Mr. Tucker, the able and energetic President of the Reading road, that passengers could be put through from Philadelphia to Harrisburgh, via Reading and Lebanon, in three hours and a half. This is considerably less than the time now required on the Lancaster route, and as the route by the Schuylkill and Lebanon valleys would be vastly preferable in other respects, a heavy business might be safely calculated upon.—*Reading Journal.*

Growth of the West.

As an evidence of the rapid growth of Wisconsin, we give a table showing the increase in Rock Co. since 1840.

In June, 1840, the population was		1,700
In July, 1842,	"	2,857
In June, 1846,	"	12,405
In Dec., 1847,	"	14,729
In June, 1850,	"	30,869

The population of the town of Janesville, county seat of Rock county, is put down at 3,343.

Indiana.

The Indianapolis and Bellefontaine railroad will be completed and the cars running from Indianapolis to Pendleton, 26 miles, on the 8th of this month. The occasion of opening the road is to be celebrated at Pendleton on that day.

The Shelbyville and Rushville branch railroads have recently been opened with much eclat, with ceremonies suited to the importance of the occasion. These penetrate a very excellent agricultural section, and will constitute important feeders to the Madison and Indianapolis railroad. The completion of every railroad in this State, by rendering available the resources of the people, instead of exhausting, furnishes them with additional means for the construction of new lines. Indiana is now fairly under weigh, and will continue the building of railroads till every county shall possess this mode of conveyance.

Maine.

Androscoggin and Kennebec Railroad.—At a meeting of the stockholders of the A. and K. railroad company held at Winthrop on Monday last, it was voted, on motion of Mr. Crane of Boston, to issue bonds to the amount of one million dollars, and offer the same in the market of not less than eighty-five cents on the dollar, to relieve the company from its present embarrassments. The business of the road we learn is rapidly increasing, and bids fair in time to pay a fair dividend upon its cost.

Ohio.

During the present month, the Cleveland and Columbus railroad will be open to Shelby county from Cleveland, where it connects with the Mansfield and Newark road. The Cleveland road is now opened to Wellington. The whole road will be open by the 31st December, forming a connection between Lake Erie and the Ohio river.

Tredegar Iron Works, Richmond, Va.

The above are among the leading works in the Southern States for the manufacture of machinery and equipment for railroads. As far as the cheapness of the raw material, iron and coal, are concerned, none can be better situated; many of the Virginia iron ores being of a very superior quality, and the Chesterfield coals being within a very few miles of Richmond. This city, too, is on the line of the great railroad leading south, and occupies a very favorable position, as far as transportation is concerned, for supplying the southern market.—The completion of the Virginia and Tennessee railroad will further enlarge the sphere of her influence. Without encouraging local or sectional feelings, we are desirous of seeing the south encourage the works situated in their midst. Such encouragement in the outset is necessary till time shall give them the experience of those who have been there in the business. The south is particularly fitted to become a great manufacturing region, and the increased outlay required for a start should be encouraged by the liberal patronage of those who are to derive important advantage from them.

Nashua Iron Company, (N.H.)

The attention of those interesting in railroads or railroad machinery, is invited to the advertisement of the above company, in another part of our paper. We are assured by the builders of Machinery that all the articles manufactured by this company are of the best quality; no pains being spared to procure the best material, and to have their work done in a thorough manner. Upon the quality of the articles manufactured by this, and companies similarly employed, depends the safety and lives of travillers; and the dreadful accidents which have been so frequent of late are directly referable to the faulty quality or make of the article used.

The above company's works are located at Nashua, near the junction of the Worcester and Nashua railroad with the great northern chain of roads, of which the Boston and Lowell, Lowell and Nashua, Nashua and Concord and Northern railroads, ane the lower links. A branch track into their yard connects their works with these roads, and thus gives them the utmost facility and economy of transportation in any desired direction. Their works are on a large scale, and are able to turn out twenty locomotive tires per day, besides all their

other work. They have been in operation and their work has been tested some two years, and has in no instance failed to give entire satisfaction.—They have been, and are now making tire and other work for the Boston and Lowell, Lowell and Nashua, Nashua and Concord, Northern, Vermont Central, Ogdensburg, Passumpsic, Boston and Montreal, Manchester and Lawrence, Boston and Worcester, Western, Boston and Providence, Old Colony, Fall River, Boston and Fitchburg, and in fact for nearly every road in New England, and many Western and Southern roads, in addition to a large amount manufactured for the leading locomotive shops in Massachusetts, to whom, as well as to the railroad companies named, the company refers for the quality of its work.

AMERICAN RAILROAD JOURNAL.

Saturday, October 5, 1850.

The rapid development of our mineral resources is one of the most marked features in the progress that our country has made for the past ten years. Our superiority over the countries of Europe in the extent and value of our mineral wealth is as decided as are our agricultural capacities. With California, we are certainly much richer in minerals than any nation in the world; and we are soon to take the lead in the production of nearly all of the valuable metals, as we have already done in some of the leading agricultural staples.

In a few years more we shall not only produce all the copper we want for our own consumption, but we shall export largely to other countries. On Lake Superior, we have the richest copper mines in the world. Some of these mines will soon be able to turn out 1000 tons of copper each; and a small number of them will suffice for our domestic wants. In addition to these, copper is very abundant and is profitably worked in many other parts of the country, particularly in Missouri, where inexhaustible supplies are found, though from its remoteness, and from want of capital, the ores found there have been but little worked. There can be little doubt but that the increased supply, which a few years will furnish, will reduce the price, so as to introduce it into much more extensive use than it has at present obtained.

We have, in New Jersey particularly, inexhaustible supplies of the best kind of zinc ore. Preparations are now in progress te work these on an extensive scale, which will supply quantities of this useful article at a very low rate.

In gold we are now the wonder of the world. It has never shown anything to equal California in richness. That vast region is undoubtedly as rich in other minerals, equally useful, but not so attractive, which will, when the mania for gold digging abates, receive attention, and be profitably worked. This will undoubtedly prove to be the richest mineral region in the world.

Our lead mines in the West are as rich in their appropriate mineral, as California is in gold.—They are capable of indefinite production. In addition to these, lead ores are found in abundance in nearly every State in the Union, and all that is wanted is time to see them extensively worked.

Thus far we have found but little silver. But from indications, it will without doubt be found in abundance in New Mexico and California. The only valuable metal used to any extent in the arts, which we do not find here is *tin*. Thus far it is found only to exist in trace.

Our iron ores exist in inexhaustible abundance of the best quality. With regard to gold, lead, copper and zinc, the superior richness of our deposits puts us beyond the injurious influence of foreign competition in their production, which to some extent checks our progress in the iron manufacture. We are the second nation already in the extent of our production, and with a reasonable protection we shall soon become the first.

With our richness in the most valuable of the metals, we have vast coal fields scattered over the country. Modern science has rendered *coal* the great motive power of the world. It is this that gives value to our great mineral wealth, and prepares it for use. The nation that is without coal, (unless some new motive power is discovered) must always remain dependent upon those that possess it. In all the elements of wealth and power which are to be found in mineral deposits, we stand unrivalled. These are now being rapidly brought into use, and with their development our country is destined to take a new start and move on with a vastly accelerated speed.

The Money Market--Prospects Ahead.

A very marked improvement has taken place within a few weeks in the stock market, and in the value of railroad securities. The great bulk of the securities in this market, are in the shape of *bonds*, which for the most part being unquestioned as to their soundness, are effected only as money is plenty or scarce. In Massachusetts, on the other hand, railroad investments are represented in the shape of stock, which derives its value from that of the road. In these there has been a very rapid advance, indicating both increased abundance of money, larger income from the roads, and greater confidence in this kind of property. From every quarter we have the most satisfactory evidence that railroads are fast regaining that place in the public confidence that they once held.

All this is very favorable to the great number of new roads in various parts of the country which are compelled to seek foreign aid in their construction. If the money had, during the past season, ruled as high in New York as Boston, thousands of miles of railroad now in successful progress, would have been discontinued; and an unfavorable condition of the money market for the next season would put a stop to the operations of a great many companies that are now going ahead with every prospect of success. The progress of the West is most intimately connected with the condition of things here. If we receive from it what constitutes the basis of our commercial greatness, we in turn loan back to that section our accumulated capital, for the purpose of enabling its people to develope to a still greater extent their vast resources.

Railroad securities can now be negotiated here on fair terms, and there appears to be every prospect that this state of things will continue. The high price of cotton, and the large probable demand for breadstuffs, will take care of our indebtedness abroad. The continued receipt of gold must make money plenty at home. In addition to the favorable state of things here, the success of our public works are attracting the attention of English capital. The stock of some of the best known of our roads are now sought after for investment, and all that is wanting is sufficient time to show the general goodness and safety of these securities to enable us to send them abroad for investment in large quantities.

In connection with this subject we give the following extract from a late money article in the London Times.

The position and prospects of the money market were never more singular than at the present moment. Everything is tending in a direction to produce striking changes in the relations of capital; but in the apathetic trance resulting from our late exhaustion, they are scarcely noticed. With an increase in the quarter's revenue of £518,000 over the favorable returns of last year, an augmentation in the declared value of our exports of between $3,000,000 and £4,000,000 during the same period, a stock of bullion in the bank which has remained with slight fluctuations, at a larger amount than was ever before known; and the prospect thus far of an abundant harvest, there are also a number of more exceptional circumstances which furnish still greater inducements that a state of affairs is approaching which must awaken the best energies of the country, and which, if wisely watched, may give an impulse to the spread of civilization, such as has been witnessed at no former epoch. Each account from California not only confirms but adds to all previous anticipations of the growth of that territory, and of the success of those who have thronged to it, and the reflex action of those movements on other parts of the world are now beginning to manifest themselves with daily increasing force.

In the Sandwich Islands, in Australia, along the whole coast of the Pacific from Valparaiso to Vancouver's Island, and even in China, the stir is distinctly felt, and the awakening life thus manifesting itself at the extremities of the commercial system must soon be acknowledged most powerfully at its centre. Even if California were announced tomorrow to be a delusion, it would be years before the effects that have already been created by it would cease to operate; but the tidings received for a long time past have now convinced all persons that its riches have never been over estimated, and hence the inference is unavoidable that what has yet taken place is only the beginning of the changes to come. According to the recent accounts from New York it is confidently believed that the gold received in the United States during the next six months will exceed the total of all that has yet arrived. The silver mines of South America, too, are yielding a largely increased supply, railroads are being constructed for their further development, quicksilver is likely to be furnished in unusual supplies, and improved methods of working are resulting from the application of capital derived from the profits of trade with San Francisco. Coupled with these facts we have accounts of other gold region in Bolivia, Venezuela and South Australia. The less noticed but steady increase in the supply from Russia has likewise to be borne in mind; and finally, the importation which is even now taking place from the substitution of paper and silver for the gold coinage in Holland, amounting, it is understood, to between £2,000,000 and £3,000,000.

Under all shese circumstances, the rate of money in England is about 1½ per ct., and at New York, although they are now sending us large amounts of bullion by each steamer, it is also lower than it has ever been for any continuance, 3½ or 4 per ct. being the highest rate that can be got for temporary loans. At the same time, two things have operated in England to prevent the glut of money being greater than it is. The remittances on account of the Russian loan of £5,000,000 and on the Danish loan of £800,000—the instalments on the first of these are now completed, and in the course of the next two months such small amounts as may remain on account of the second will also be discharged. There will consequently, as far as we can see at present, be henceforth nothing to disturbe the existing tendency toward accumulation.

Step by step with this tendency the rate of interest to be obtained by capitalists must decline.—There is no over speculation in trade to prevent it, and no quarter of the world where the exchanges are likely to turn against us. The only questions, therefore, that present themselves are, first, as to the point to which the value of money will descend without overcoming the present horror of all other investments which involve risk; and secondly, in what quarter the vent will be found when the overflow of capital shall at last become irrepressible.

For the present we can look for no striking devi-

ation in the routine channels for the employment of money, and hence there will be plenty of time to watch the quarters to which it will ultimately rush. In the intermediate months there may be a variety of small gambling movements in some of the low-priced foreign stocks or shares, bnt nothing of a character that will not be limited and transitory. The old burns in that respect have become matter of history, and when the general impatience of 1 or 1¼ per cent. as the rate of interest shall have gained its full force, a new field will be required for its development. It will then be found, that although the uses of capital had seemed to us to have narrowed to such a point as to render it almost valueless, such an idea was inconsistent with the onward course of affairs, that it was in fact merely the silly reaction from opposite delusions, and that although the opportunities for the employment of money were declining in one quarter, they were rising up with increased force in another. Among many new features, the growing wonders of the new world on the Pacific will at that date be rightly interpreted; and it will perhaps be seen that while we have thought all safe modes of adventure utterly exhausted, private individuals have been making large fortunes by running steamers, by working coal, by facilitating the transit of emigrants and merchandise, by testing new kinds of produce and means of cultivation, by building piers, and docks, and villages that are capable of becoming cities, and by all the other occupations that are opened up wherever a new population is suddenly attracted.

Central Railroad Line through New York and Canada.

The near approach of the completion of the Erie, and the lines of railroad along the south shore of Lake Erie, is turning the attention of the stockholders in the Central line in this State as it is termed, to the importance of taking every step in their power, to continue their line a successful rival of the more southern route. Very great improvements can be made by cutting off some of the long circuits now made, to accommodate large towns. From Syracuse to Rochester, the work of straightening is already in progress. From Rochester a road is to be constructed to Niagara Falls for the pu pose of connecting with the Great Western of Canada, which will constitute the shortest possible route between Detroit and Western N. York. The line will also receive the support of the Michigan Central, which is interested in keeping the line of travel as far north as possible, to prevent its falling upon the Michigan Southern. With such interests at stake, and such powerful influences at work, we may expect that the whole line from Albany to Detroit will be put in the most favorable condition for the purpose of retaining as large an amount of business as possible. From Detroit westward it is proposed to run a branch from the Michigan Central to the mouth of Grand river, opposite Milwaukee. From this last point, the Milwaukee and Mississippi railroad will form the last link to the Mississippi river.

The portion of this line through Canada will, we presume, require some years to complete. It is a great work, is in the hands of one company, and will not command the support of the people thro' which it runs so entirely as it would if it were in charge of several companies. The Canadians, too, do not take up railroads with the same *con amore* as the "States." The roads we have named will furnish aid to some extent. What is expected from English sources we have no means of knowing.—But it is a line possessing too much inherent strength to fail, and with the Provincial guaranty, which is available after one-half shall be completed, we may count upon its final construction as a certain event.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " 6x2 " 7 feet 8 in. long.
Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

Notice to Contractors.

CENTRAL OHIO RAILROAD.

SEALED PROPOSALS for the Graduation and Masonry of 36 miles of the Central Ohio Railroad, extending from the 24th section—three miles east of Newark to the City of Columbus—will be received until the 1st day of November next.

Also for the Bridging (being about 1200 lineal ft.) for the whole line from Zanesville to Columbus.

Also, for 55,000 White Oak Cross Ties, deliverable along the line from Zanesville to Newark before the first day of May, 1851.

Also, for 72,000 White Oak Cross Ties, deliverable along the line from Newark to Columbus before the 1st of August, 1851.

Contractors proposing for the construction of Bridges may propose for plans furnished by themselves, as well as those furnished by the Engineer.

The line will be ready for examination by the 10th of next month (October.)

The bids will be received at the office of the Engineer in Newark, where plans will be exhibited, and specifications furnished.

Contractors unknown to the undersigned must produce satisfactory testimonials.

The amount of work involved in this letting is well worthy the attention of enterprising contractors.

By order of the Board.
ROBERT MAC LEOD Chief Engineer.
Zanesville, Sept. 24, 1850.

P.S. A large number of laborers would find immediate employment and fair wages upon the portion of the line now under contract.

To Contractors.

ALABAMA AND TENNESSEE RIVER R. R.

SEALED Proposals will be received by the Directors of the Alabama and Tennessee River Railroad, at their office in Selma, until the 1st of November next, for the graduation, masonry and bridging of 56 miles of the Southern Division of said road, extending northwardly from Selma.

Plans and profiles may be inspected and specifications and information will be given at the office of the company in Selma, on and after the 15th of October next.

Twenty-six miles of this division were graded in 1839. This part of the division will require repairs to the road bed, and will be furnished anew with culverts and bridges.

The country embraced in this division is healthy, well watered, and possesses facilities for obtaining supplies of provisions.

Proposals may be based upon cash payments, or upon payments of a proportion, or of the whole of the work in stock.

The Directors reserve to themselves the right to accept or reject proposals as they may think proper for the interests of the company.

The Directors expect to have as much as twenty miles of the Northern Division, extending northwardly from the Coosa river in Shelby county, ready for examination by the 15th November, and for letting by the 1st December; and 30 miles more, ready for examination by the 1st and for letting by the 15th of January, 1851. It is likewise their intention to let out the grading, masonry and bridging of the remainder of the Southern Division and of the Northern Division terminating at Gadsden, with all possible despatch.

By order of the President and Directors.
LEWIS TROOST, Chief Engineer
Selma, Ala., August 30, 1850.

Rosendale Cement.

THE NEWARK AND ROSENDALE LIME AND CEMENT CO. are now manufacturing at their works in NEWARK, N. J., and Ulster county, N.Y., a very superior article of *Hydraulic Cement*—also Lime Calcine Plaster, etc. Contractors and dealers will find it to their advantage to call or make application before purchasing elsewhere. All communications addressed to the subscriber, at Newark, N.J., will be punctually attended to.

ly*15 HENRY WILDE, Secretary.

Railroad Iron.

THE Undersigned are prepared to contract for the delivery of superior make Welsh Railroad Iron of the favorite brand "Aberdare."

JOSEPH BRAMWELL & CO.,
40 91 Wall street.

Nashua Iron Co.,

NASHUA, NEW HAMPSHIRE.

MANUFACTURERS of Rowling, Pembroke and Lowmoor Locomotive Tires, Engine Frames, Crank and Car Axles, Wrought Iron Shafting of all sizes, Shapes of all descriptions used in Machine shops and upon Railways.

FRANKLIN MONROE, Treasurer.
Messrs. Fullerton & Raymond, Agents, Boston.
" Raymond & Fullerton, " New York.
Orders received by the Treasurer at Nashua, N.H., or by the Agents in Boston or New York.

To Civil Engineers.

WANTED—A Practical Engineer, to be concerned in an Enterprise (a valuable Cannel Coal Mine) that will prove of great advantage to him, as well as those to be associated with him. A preference will be given to one possessing some means, to aid in the completion of the works now in progress, and to take an interest in the stock of the company, already incorporated. Communications addressed to B.G.L. at this office, with real name and address, will meet with immediate attention.

October 3, 1850. 4t40

Great Work on Bridge Building, etc., etc.

JUST published in medium folio, One Dollar, 75 cts. to subscribers.

Part I. of a "THEORETICAL AND PRACTICAL TREATISE ON THE CONSTRUCTION OF BRIDGES IN STONE, IRON AND WOOD," By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections, and centering, of the Bridge of St. Maixence, France, by M. Perronet, the eminent Architect and Engineer, and plans, elevations, sections, and details of the oblique Timber Bridge, 700 ft. long, constructed for a double track across the River Tyne, on the line of the Newcastle and Carlisle railroad, by John Blackmore, C. E., with an introductory article on the relative merits of the various materials employed in the construction of Bridges, as regards economy, strength and durability, and critical remarks on the various forms of bridges designed and constructed by the most eminent architects and engineers in Europe and America.

"PART VI. of Specimens of the Stone, Iron and Wood Bridges, etc., etc., of the United States Railroads," By George Duggan, Architect and Civil Engineer, contains specimens of the plates and letter press intended for the APPENDIX, being the commencement of a complete Treatise on the Theory and Practice of Bridge Building. This will be one of the most valuable works on the subject ever presented to the attention of engineers in this country—condensing the most important information on this branch of architecture contained in the writings of the most eminent scientific men in the French, German, Italian, and English languages, in the course of the last and present century. It will be illustrated by numerous accurate representations of bridges of the greatest celebrity in modern times. Elaborate articles will be given on the strength, property, and uses of the different materials employed, and on the most approved methods of constructing Coffer Dams, Foundations, Centering, etc., with descriptions and drawings of the various engines and Machines that were found most useful in constructing the works, and a selection of such specifications as may be of service to the practical bridge builder. The sixth number treats of the Application of Iron to Railroad Structures, and is illustrated by beautiful drawings of the Bridge across the Delaware at Saw Mill Rift on the Erie Railroad, and of the bridge over Fairfield street, on the Manchester and Birmingham Railroad. The great success of this work thus far is the best tribute to its scientific merit and its adaptation to the wants of the American engineer."—[New York Daily Tribune, June 28, 1850.

Published by George Duggan, 300 Broadway, New York, to whom all communcations should be addressed and subscriptions forwarded.

☞ Parties remitting Mr. Duggan $5. and the remainder $4 when they have been supplied with the first six parts of the "Theoretical and Practical Treatise on Bridge Building, etc.." shall receive it monthly as published. To those making Mr. Duggan a present remittance of $9, the work will be forwarded post free to any part of the United States.

Great American Engineering

AND MECHANICAL WORK, just published in medium folio One Dollar, 75 cts. to Subscribers.

Part VII of "Specimens of the Stone, Iron & Wood Bridges, Viaducts, Tunnels, Culverts, &c., &c., of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations, sections and details of the elegant timber Bridge, (Burr's Patent,) 150 feet span, across Salmon River, Malone, on the line of the Northern—Ogdensburg—railroad, and isometrical views of Bridges 30, 40 60, 82 and 88 feet span on the line of the Utica and Syracuse railroad, with specifications, form of contract, &c. &c., for the Connecticut River railroad.

"It is a work that was a great desideratum, and must prove of great benefit to the engineering profession generally, and especially to the tyro in practical engineering and mechanical knowledge; in truth it strikes us, that it would require years of labor and patient toil on the part of a young engineer to prepare the drawings, and collect the information that will be embodied in this work, and can now be secured for the trifling sum of $9"—[Scientific Amer. March 16, 1850.

In connection with this subject (Iron Railroad Structures) we take occasion to call attention again to Mr. Duggan's valuable and expensive publication, exhibiting drawings, with full descriptions of the various stone, iron and wooden bridges, viaducts, tunnels, culverts, etc., of all the Railroads in the United States. Mr. Duggan is an accomplished Architect and Civil Engineer, who came from Ireland to this country to exercise his profession; but finding Railroad construction here, in many respects, different from that he had been accustomed to in Europe, he applied himself to the study of our system; and the fruits of his researches and investigations embodied in this work, are well calculated to meet the exigencies of engineers, and to assist draughtsmen, bridge builders, mechanics and students.—[N. Y. Jour. of Com., Feb. 14, 1850.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed, and subscriptions forwarded.

Emerson's Patent Ventilator,

ADAPTED to Cars, Engine houses, Public Halls, Factories, Churches, School Houses, Dwellings, Chimney Flues, etc.

This Ventilator is stationary, and cannot get out of order. It is constructed in such conformity to certain ascertained laws of pneumatics, as to insure a constant draft outward, whatever may be the changing direction of the wind. The Massachusetts Mechanic Association have awarded a gold medal to the Inventor, and the Manufacturers have already disposed of over 3,000 of the article. Manufactured and sold by

CHILSON, ALLEN, WALKER & Co.,
351 Broadway, New York.

NOTICE

For Proposals for Railroad Iron, for the Alabama and Tennessee River Railroad,

TO BE MANUFACTURED FROM ALABAMA ORE.

THE Alabama and Tennessee River Railroad Co. invite proposals, until the 1st of January, 1851, for Iron Rails, to be made of Alabama Iron, for the Northern Division and part of the Southern Division of their road, embracing a distance of about 105 miles. The rails are to be of the H pattern, in lengths of 18 feet, and weighing 63 lbs. per lineal yard. They are to be delivered on the Coosa river, at a landing to be hereafter designated, between Kimulgee ferry and Fort Williams, commencing their delivery on the 1st of November, 1851, and continuing it at the rate of from 80 to 100 tons per week, until the whole quantity required (10,500 tons) shall have been delivered. They are to be inspected by Lewis Troost, Chief Engineer.

It is proper to state to iron masters and capitalists at a distance, that the country traversed by the Northern and part of the Southern divisions of the road abounds in excellent iron ore and bituminous coal, and possesses every advantage for the successful manufacture of iron, health, cheap labor and provisions.

Further information may be obtained by addressing the President of the Company at Selma, Ala.

By order of the Board of Directors.

J. W. LAPSLEY, President.

OFFICE FULLER'S PATENT INDIA-RUBBER SPRINGS,
New York, Sept. 25, 1850.

IN the Railroad Journal of last week, Mr. Ray, by advertisement, made statements totally untrue; for the purpose of misleading the parties interested in the use of India-rubber Springs. With respect to the patent granted a few days since by the present Commissioner of Patents to F. M. Ray, the facts of the case are as follows:

In 1845, Mr. W. C. Fuller obtained a patent in England for the application of Vulcanized India-rubber to springs of railroad cars; and in 1846, applied and obtained a patent for the same invention in the United States. Subsequent to this, Mr. Fowler M. Ray, and his associates, obtained a patent for a spring composed of cylinders of rubber made air tight, which proved to be of no value. He then commenced infringing upon Mr. Fuller's patent, but receiving notice to desist, he applied, in 1848, to Mr. Burke, the then Commissioner of Patents, for a patent similar to that granted to Fuller, which application was promptly refused. An interferance was then declared by Ray and his associates, which after consideration by Mr. Burke, was dismissed. No appeal was made by Ray, and thus ended the matter.

Mr. Ewbank succeeded Mr. Burke, and M. Keller, a very warm and influential friend of Mr. Ewbank, was employed by Mr. Ray to procure a patent. Mr. Ewbank, setting aside the decision of Mr. Burke, and against the evidence produced by Mr. Fuller, on the hearing of the case before the U. S. Commissioner, has thought fit to grant Ray a patent. Proceedings have already been commenced, and the legality of this patent will be forthwith tested in a Court of Equity, where no undue influence can reach. In the meantime Fuller's patent stands valid and untouched, and all Mr. Ray's notices and advertisements about infringements by Fuller, upon his rights, and all implied threats of prosecution against those using Fuller's springs are intended to deceive the public and defraud Fuller.—This gross attempt to deprive Mr. Fuller of his lawful rights as original inventor and patentee of India-rubber springs for railroad cars, etc., will be fully exposed in a court of law, till when, the directors of the various railroads in the United States, and others concerned, are cautioned against being misled or intimidated by any of Ray's misrepresentations.

With regard to the material of which the springs are composed, the rubber used by Mr. Fuller is made by Mr. Day, or by the Boston Belting Co., either under their own patents or that granted to Goodyear; the fact of Mr. Day having manufactured Vulcanized India-rubber two years before Goodyear applied for a patent, having given him a concurrent right to use it.

The statement that Mr. Day made opposition or was engaged to oppose Ray is not true. Mr. Day was never present at the taking of testimony except on the occasion of giving his own. The whole controversy was between the original inventor Fuller, whose agent the subscriber is, and the parties who are seeking to defraud him of his most valuable discovery.

Below is the opinions of counsel upon these questions.

NEW YORK, Sept. 23, 1850.

Sir: Yours of this date in relation to W. C. Fuller's and F. M. Ray's patents for India-rubber springs, is received. I state in reply that I have been one of the counsel for Mr. Fuller in the controversy, and understand the points involved in it. Mr. Fuller's patent was granted in England on the 23d October, 1845, and in the United States on the 24th October, 1846.

His American patent (the one in question) has not been annulled, repealled, or declared void or invalid, but it remains in full force and validity. He can maintain suits for violation of it. Purchasers using it cannot be made responsible to Mr. Ray under his patent: first, because they act under the authority of the United States, in their patent to Fuller, and second, because Ray's patent was issued contrary to the express provisions of the statute, and on that account is utterly void. No suit can be sustained upon it by Ray against any one.

The Commissioner of Patents, in his order for its issue, indicated his doubts on the subject of the right to issue it (his predecessor, Mr. Burke, having expressly refused Ray a patent) and says he gives Ray the benefit of his doubts, and consequently made the order.—The error in granting this patent to Ray, under the facts and law of the case, is so palpable that I have been retained by Mr. Fuller to institute a suit in the U. S. Circuit Court to set it aside, and I am now preparing a Bill to be filed at once.

Your obedient servant, R. H. GILLET.

G. M. KNEVITT, Esq., Agent for W. C. Fuller.

I fully concur in the opinions above expressed.

F. B. CUTTING,
Counsel for Fuller, Wall st., Sept. 25, 1850.

G. M. KNEVITT,
Agent and Attorney for W. C. FULLER.

GRAHAM'S COMPOSITION, to Remove and Prevent Incrustation (or Scale) in STEAM BOILERS.

THIS valuable composition having been fully and extensively tested, is now offered to the public, as a sure remedy and preventive for incrustations in steam boilers of all descriptions. By its use, all scale is entirely removed from the boilers of Ocean and River Steamers, Locomotive and Stationary Engines, in from 3 to 20 running days, according to the size of the boiler and thickness of the scale. In New Boilers, all incrustation is prevented at a trifling expense.

The preservation of the boiler, great economy of fuel and labor, safety, and increased speed, are among the advantages to be derived from the use of this composition.

Orders should state the quality of water used, viz: "Salt," "Fresh," or "Brackish."

For sale, with directions for use, by

W. H. NEWMAN,
75 Pearl street,
New York.

—

TESTIMONIALS.

New York. August 17, 1850.

We have used Graham's Composition in the boilers of the Steamship Southerner, during several voyages between this place and Charleston. The boilers were old and very foul with scale, a very large quantity of which was removed by the use of the composition, and no new scale was formed.

From our own experience and observation in the use of the article, we are fully satisfied that it will effectually remove the incrustation made by sea water, and also that it will effectually prevent its formation.

We are also satisfied that the use of it will be attended with a great saving of fuel, and that it has no injurious effect upon iron.

DAVID N. MAXON, Engineer,
BERRY, Master,
Steamship Southerner.

—

Steamship Philadelphia,
New York, August 27, 1850.

I have used "Graham's Composition for Steam Boilers," in the boilers of Steamship Philadelphia, on the voyage to and from Chagres, and am entirely satisfied that it will remove, dissolve and *prevent* all scale or incrustation in salt water boilers.

For the preservation of the boiler and economy of fuel and labor, I hereby recommend the employment of this composition in the Boilers of Ocean Steamers.

WM. BISBY,
Chief Engineer.

—

Novelty Iron Works,
New York, July 5, 1850.

We have examined the specimen of Graham's Composition for preventing incrustation of steam boilers, and we believe it may be used with perfect safety in reasonable quantities for the purpose intended, as there does not appear to be any agent in the composition calculated to injure the iron.

STILLMAN, ALLEN & CO.

—

Piermont, May 20, 1850.

I have used "Graham's Composition," and find it to produce the intended effect; and I hereby, without hesitation, recommend it for Stationary, Marine and Locomotive Engine Boilers.

JOHN BRANDT,
Superintendent Motive Power
New York & Erie R.R.

—

New York, July 25, 1850.

In answer to many inquiries as to the practical effect of "Graham's Composition," I will state that I have used it in the boiler of the Steamboat Sunwick, which had become considerably incrusted with hard scale from both salt and fresh water. We used 10 lbs. per day, for three days, without blowing off the water, until the fifth day, when all was drawn off. To our astonishment, we found the whole interior of the boiler as clear of scale and smooth as when it came from the hands of the maker. The following week, we tried the same quantity in a small steam tow boat.—The boiler had old scale of long accumulation and very thick. We ran the boat three days without blowing off, and on the fourth day washed out the boiler and found it, like the "Sunwick's," perfectly clean and smooth as when new. I am therefore enabled to state that the use of the composition in these two instances under my own immediate observation and direction, has been attended with complete success.

JAMES MORROW,
Engineer Astoria Ferry.

Faggotted Car and Engine Axles

FORGED by RANSTEAD, DEARBORN & Co., Boston, Mass.

These Axles enjoy the highest repulation for excellence, *and are all warranted.*

Ogden & Martin's ROSENDALE CEMENT.

WE are prepared to enter into arrangements for supplying our Cement for public works or other purposes. We warrant the cement equal in every respect to any manufactured in this country. It attains a great degree of hardness, setts immediately under water, and is a superior article for masonry coming in contact with water, or requiring great strength.

For sale in tight barrels, well papered, at their office by OGDEN & MARTIN, 104 Wall st.

February 16, 1850. 1y*

The above cement is used in most of the fortifications building by government.

Railroad and Mathematical Instruments.

KUNS & BASELER, Mathematical Instrument makers, manufacture and keep for sale all kinds of mathematical instruments: also drawing instruments, scales and balances for the use of chemists, professional gentlemen, jewellers, etc., etc., of the most perfect description, at the lowest price, at 81 Nassau street, New York.

Ibbotson, Brothers & Co's CELEBRATED CAST STEEL AND

Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY I. IBBOTSON, Agent., 218 Pearl st., New York.

Railroad Iron.

OF ANY PATTERN AND WEIGHT, *Of a Favorite Brand,*

And deliverable in Bond, or Duty paid, at any Port of the U. S., contracted for on favorable terms, by

CHARLES ILLIUS, 20 Beaver St., New York.

Pig and other Iron also contracted for. Sole Agent for "*Baxter's Machine and Burning Oil*"—particularly adapted for "*Railroads*" and other Machinery—Preferred to Sperm by the many now using it, and 25 *per cent. cheaper.*

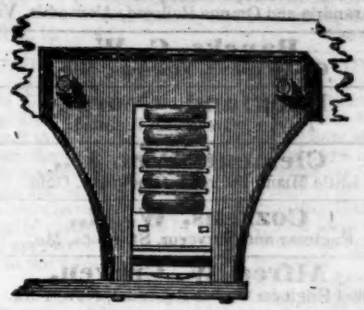
Coal.

CUMBERLAND SEMI-BITUMINOUS COAL superior quality for Locomotives, for sale by

H. B. TEBBETTS, No. 40 Wall St., New York.

May 12, 1849. 1m19

FULLER'S PATENT INDIA RUBBER SPRING.



THESE SPRINGS ARE THE CHEAPEST, the lightest and most durable of any yet known. They are easily applied to new or old cars, and there is small possibility of any accident occurring to them.

Other parties through Mr. Ray set up claims to an India Rubber Spring which, though the same in principle, is very inferior in its working and durability.—Actions are in progress for an Infringement on Fuller's Patent against parties using that Spring.

The superiority of Fuller's Spring over that claimed by Mr. Ray is fully established and has frequently been testified to. The following are from gentlemen who have had much experience with both Springs.

—

"It will afford me pleasure to recommend your springs to the companies in this region, in preference to Ray's which I am confident are inferior in mechanical arrangement to yours." JOHN M'RAE, Engineer S. Carolina R. R., Charleston.

—

"I do not hesitate to allow you to say that I concur in Mr. M'Rae's opinion that Ray's springs are inferior in mechanical arrangement to Fuller's. I repeatedly expressed that opinion long before Mr. M'Rae had seen your springs (as I believe) and entertain it still." WM. PARKER, Gen'l Supt. of Baltimore and Ohio R. R.

—

Office of Sup't Norwich & Worcester R.R Co. December 26, 1849.

"I most fully concur in the opinion of Jno. McRae, Engineer of S. Carolina Railroad, that 'Rays Springs are inferior to Fuller's Springs;' and shall with pleasure recommend them to all Railroad Companies for adoption. I have used both springs on this road and have no hesitation in saying that I should in all cases prefer Fuller's Spring." SAM'L H. P. LEE, JR., Sup't and Engineer.

—

Office B. & P. R. R. Co., Boston, 20th December, 1849.

"This company have cars fitted up with both Ray's and Fuller's 'Metallic India Rubber Springs,' and do not hesitate to say that Fuller's arrangement *very much superior* to Ray's. W. RAYMOND LEE, Supt.

—

The following result has been obtain 1 by experiment upon one railroad.

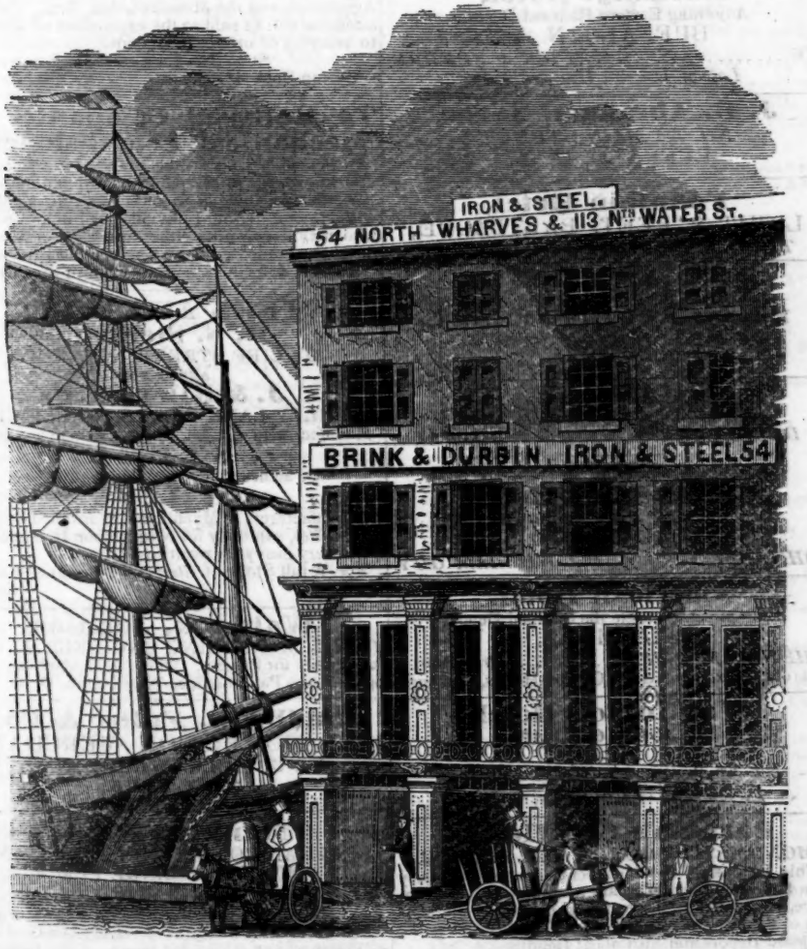
A set of Trucks fitted with Steel Springs cost	$190·77	and weigh 2355 lbs.
The same with Fuller's Springs, . . .	131·71	" 1911 lbs.
Difference, . . .	$59·06	" 444 lbs.

Not only is there an advantage in the cost, but owing to the great reduction in weight, the car can be made lighter throughout, and so an enormous saving in weight may be effected in a Train.

AGENTS.

G. M. KNEVITT, 38 Broadway, N. Y.,
JOHN THORNLEY, 110 Chestnut St., Philad.
The BOSTON BELTING CO., Milk st., Boston.

January 2, 1850.



To Merchants, Railroad Companies, Machinists and Boiler Makers.

THE subscribers beg leave to call attention to their very large stock of *Iron* and *Steel*—of American, English, Swede and Norway make—of all the different kinds in use. Also, Railroad Iron, Ship, Boat and Railroad Spikes. They are also Agents for the *Best Pennsylvania Locomotive Boiler and Tank Iron*, each sheet of which will be *stamped and warranted*, at lowest mill prices. Our prices for all kinds of iron will be found *very low*, either for cash or approved credit. BRINK & DURBIN, *Philadelphia.*

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 26, 1849.

ENGINEERS.

Atkinson, T. C.,
Alexandria and Orange Railroad, Alexandria, Va.

Bancks, C. W.,
Civil Engineer, Vicksburg, Miss.

Buckland, George,
Troy and Greenbush Railroad.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Davidson, M. O.,
Eckhart Mines, Alleghany Co., Maryland.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Floyd-Jones, Charles,
South Oyster Bay, L. I.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Hewson, M. Butt,
Memphis, Tenn.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

Roebling, John A.,
Trenton, N. J.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Sours, Peter,
Rahway, New Jersey.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Panama Railroad—Address through office of Panama Railroad Co., 78 Broadway, N. Y.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

HOTELS.

Exchange Hotel,
Adjoining Eastern Railroad Depot,
BUFFALO, N. Y.
BY.....FISK & SPERRY,
Late of Delevan House, Albany.

J. D. Abraham, *Architect,*
NO. 300 *MAIN STREET,*
BFFFALO, N. Y.

Fountain Hotel,
LIGHT STREET, BALTIMORE,
P. THURSTON.....Proprietor.

DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

MANSION,
Corner of Maine and Exchange Streets,
P. DORSHIMER. *BUFFALO.*

GUY'S
United States Hotel,
(Opposite Pratt street Railroad Depot,)
BALTIMORE.
JOHN GUY. *WILLIAM GUY.*

American Hotel,
Pratt street, opposite the Railroad Depot,
BALTIMORE.
HENRY M. SMITH.....Proprietor.
Late of the Exchange & St. Charles Hotels, Pittsburg.

Washington Hotel,
BY JOHN GILMAN,
$1 *Per Day.*
No. 206 Pratt street, (near the Depot,)
BALTIMORE.

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
Barnes & West, ... Proprietors.

BUSINESS CARDS.

Lithography.
JOHN P. HALL & CO.,
161 Main st., Buffalo, (Commercial Advertiser Build.)
Are prepared to execute all kinds of Lithography in good stole and at reasonable rates. Particular attention wil be paid to Engraving Railroad Maps, Engineer's Plans and drafts, etc., and orders in this line are respectfully solicited.

J. T. Hodge
Will attend to the examination of mining tracts near Lake Superior, and prepare Reports and Maps.
Address, during the Summer,
Ontanagon Postoffice, Lake Superior.

Cumberland Steam Coal,
FROM THE
FROSTBURG MINES, MD.
H. A. TUCKER,
Agent of Frostburg Coal Co.
No. 50 Wall Street, New York.

Eaton, Gilbert & Co.,
Railroad Car, Coach and Omnibus Builders,
TROY, N. Y.

Charles T. Jackson, M. D.,
STATE ASSAYER, late Geologist to Maine, Rhode Island, New Hampshire, and the United States, offers his services to his friends and the public in making any Chemical, Mineralogical or Geological researches that may be required for the improvement of Agriculture and the Manufacturing Arts. Particular attention will be paid to the exploration of mines and to assaying of ores of the metals.
State Assayer's office, 31 Somerset st.
Boston Sept. 3, 1850.

To Railroad Companies and Mechanical Establishments.
A Person of considerable experience and practical knowledge in Mechanical, Civil and Marine Engineering, is anxious to meet with an engagement with either a Private Individual or Public Company, who may have works either to design or execute in the above branches of the Engineering Profession.
Address Z. Y., 47 Atlantic st., South Brooklyn, L.I.

STEEL AND FILES.
R. S. Stenton,
20 CLIFF STREET, NEW YORK,
AGENT FOR
J. & Riley Carr's
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German and Blister
STEEL
Of all descriptions. *Warranted* Good
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for woring upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Walter R. Johnson,
CIVIL AND MINING ENGINEER AND ATtorney for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Cop Waste.
CLEAN COP WASTE, suitable for cleaning Railroad, Steamboat and Stationary Engines, constantly an hand and for sale by
KENNEDY & GELSTON,
54 Pine St., New York.
October 27, 1849, 3m

PLUSHES
FOR
Railway Cars & Omnibuses.
F. S. & S. A. MARTINE,
112 WILLIAM ST., NEAR JOHN.

ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.

ALSO—CURLED HAIR, the best manufactured in market.

Samuel Kimber & Co.,
COMMISSION MERCHANTS
WILLOW ST. WHARVES, PHILADELPHIA.

AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.

July, 27, 1849.

James Herron, *Civil Engineer*,
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.

Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

To Railroad Companies.
—WROUGHT IRON WHEELS—
SAFETY AND ECONOMY.
NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, NEW YORK,

Are Manufacturing Wrought Iron Driving, Truck, Tender, and Car Wheels—made from the best American Iron. Address E. S. NORRIS.

May 16, 1849.

Manufacture of Patent Wire ROPE AND CABLES,

For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by JOHN A. ROEBLING, Civil Engineer,
TRENTON, N. J.

Doremus & Harris,
ANALYTICAL & CONSULTING CHEMISTS,
179 BROADWAY, NEW YORK.
☞SCHOOL OF CHEMISTRY.☜

To Engineers and Surveyors.

E. BROWN AND SON Mathematical inst. makers No. 27 Fulton Slip, New York, make and keep for sale, Theodolites, Levelling inst., Levelling rods, Surveyors Compasses, and Chains, Cases of Mathematical drawing insts. various qualities, together with a general assortment of Ivory Scales and small insts. generally used by Engineers.

Ranstead, Dearborn & Co.,
MANUFACTURERS OF
LOCOMOTIVE CRANKS AND CAR AXLES,
ALSO
WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.

Forge at Commercial Point, Dorchester,
Office 25 Foster's Wharf, opposite No. 211 Broad St.
BOSTON.

Henry I. Ibbotson,

IMPORTER of Sheffield and Birmingham Goods. Also, Agent for the Manufacture of Telegraph Wire. 218 PEARL ST., NEW YORK.

Cumberland, (Md.,) Coals for Steaming, etc.

ORDERS RECEIVED FOR AND FILLED by J. COWLES, 27 Wall St., N. Y.

Samuel D. Willmott,
MERCHANT, AND MANUFACTURER OF
CAST STEEL WARRANTED SAWS,
—AND FILES—
IMPORTER OF THE
GENUINE WICKESRLY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by
E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

IRON.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.
For sale by CHARLES T. GILBERT,
No. 80 Broad st.
New York, Sept. 21, 1850.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO.
139 Greenwich st. corner of Cedar.

Railroad Iron.

FOR SALE—500 Tons of superior flat bar Railroad Iron, two and a half by three-fourths—which has been in use on the Cumberland Valley Railroad for about three years. For terms apply to Henry J. Biddle, Esq., Philadelphia, or to FREDK. WATTS,
President of the Cum. Val. R.R., Carlisle, Pa.
Carlisle, Sept. 17, 1850.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.
New York, Aug. 26, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.
COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Railroad Iron.

1,500 Tons weighing 58 lbs. per lineal yard.
500 " " 57 " "
500 " " 56 " "
500 " " 60 & 61 lbs, "

Also 2½x½ flat rails. All the above being of approved patterns. For sale by
DAVIS, BROOKS, & CO.,
68 Broad street.

N.B.—Rails imported on commission, or at a fixed price.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by
COLEMAN, KELTON & CAMBELL,
109 N. Water St., Philadelphia.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.
February 15, 1850.

Glendon Refined Iron.

Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,

Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.
Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.
JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.

The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore, Md.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
73 New street,
February 3, 1849. New York.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.
MORRIS, JONES & CO.,
Iron Merchants,
Schuylkill 7th and Market Sts., Philadelphia.
August 16, 1849. 1y33

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N.Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.
November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.
REEVES, BUCK & CO.
45 North Water St. Philadelphia.
March 15, 1849.

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from 1¼ to 5 inches diameter. Flats, from ¾ to 7 inches, all thicknesses.

Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call. J. R. ANDERSON.

Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Iron Wire.

REFINED IRON WIRE OF ALL KINDS, Card, Reed, Cotton-flyer, Annealed, Broom, Buckle, and Spring Wire. Also all kinds of Round, Flat or Oval Wire, best adapted to various machine purposes, annealed and tempered, straightened and cut any length, manufactured and sold by

ICHABOD WASHBURN.

Worcester, Mass., May 25, 1849.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
6m9 62 Buchanan's Wharf, Baltimore.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Smith & Tyson,

GENERAL COMMISSION MERCHANTS,
No. 25 South Charles St., Baltimore, Md.

AGENTS for the Celebrated Columbia Pig Iron, suitable for Car Wheels and Chilled Rolls.

Columbia refined Charcoal Blooms; Refined Charcoal Juniatta Billet Iron for Wire; Refined Iron for Bridging, of great strength; Cut Nails, Spikes, and Brads; Railroad Spikes and Wrought Chairs. 22tf

Stickney & Beatty,

DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel and Maryland (Balt.) charcoal forge pig irons, Balt. hard iron for chilling wheels, anti-Eatam nails, Catoctin foundry iron, boiler blooms from the Caledonian works, Wm. Jessop & Son's cast steel, Coleman's blister steel and nail rods, hoop, band, sheet, oval and common English iron.

Nos. 18 and 20 South Charles st., Baltimore.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by

COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Iron.

3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by

DAVID W. WETMORE.

New York, March 26, 1850. 3m

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND

ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.

November 23 1849.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.

WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.

July 27th, 1850.

To the Proprietors of Rolling Mills and Iron Works.

THE Undersigned—Proprietors of Townsend's Furnace and Machine Shop, Albany—are extensively engaged in the manufacture of Machinery and fixtures for Iron, and Copper Rolling Mills, and Iron Works. Having paid particular attention to the manufacture of *Rolls* (Rollers), both *chilled* and *dry-sand*, they feel confident that they can execute orders for such castings in a satisfactory manner. And to give assurance of this, they beg leave to refer to the following named persons, proprietors and managers of some of the most extensive rolling mills in the country, viz: Jno. F. Winslow, J. Tuckerman, H. Burden, W. Burtt, J. & J. Rogers, Saltus & Co., J. B. Bailey, L. G. B. Cannon, Hawkins & Atwater, etc., etc.

F. & T. TOWNSEND.

Albany, August 18, 1849,

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by

RAYMOND & FULLERTON, 45 Cliff st.

Bowling Iron. Stamped B.O.

Railway Tire Bars	Rivet Iron
Locomotive and other Axles	Locomotive Frame do
Boiler Plates	Bars,

and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

Ray's Patent India Rubber Car Springs.

Savannah, Ga., May 22, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: I have no hesitation in saying, after having used on our road your springs and Fuller's, that I consider yours decidedly the best in every particular, and in this opinion I am sustained by all our officers. Fuller's spring has a tendency to split, and also to chafe or abrade by the constant friction on the cast iron plates or disc: and in my opinion is not near so elastic as yours.

Your springs, which have been in use on our road for 12 or 15 months past, and in constant use under both passenger and freight cars, are to all appearances as elastic, sound and good, as when first put in use.

We are now building eigty-five new cars, of which for fifty-sets the springs have been ordered of you.

GEORGE A. ADAMS,
Master Carpenter,
Central Railroad and Banking Co. of Georgia.

—

Connecticut River Railroad Office,
Northampton, May 4, 1850.

E. CRANE, Esq.,

Dear Sir: It is now about two years since I first tried the experiment of using a set of Ray's India-rubber Springs upon one of our merchandise cars, and although the car has been in constant service since that time, I do not on examination find the slightest difference either in the thickness or elasticity of the material.

The same result has followed wherever we have applied them, either for wheel or draw springs on Engines, Tenders or Cars. At present we use no other; either in replacing old springs or building new cars—and I am perfectly satisfied that for economy, durability, safety, and ease of motion, that Ray's India-rubber is the best article for Springs which has been presented to the public.

Yours respectfully, J. HUNT,
Supt. Connecticut River Railroad.

—

EDWARD CRANE, Esq.,

Dear Sir: Having applied to cars of the Boston and Worcester Railroad Corporation, Ray's Vulcanised Rubber Springs (where they have been in use for some two years last past), I have had occasion to observe their operation, and am free to say in answer to your inquiries, that they retain their *elasticity* perfectly during all changes of atmospheric temperature: and are in my opinion a most valuable acquisition to Railroad Cars—are not liable to derangement, as is the case with steel springs; while at the same time it costs less to apply them. Respectfully yours,

D. N. PICKERING,
Supt. Motive Power, Bost. & Wor. Railroad.
Boston, April 15th, 1850.

Monument Foundry.

A. & W. DENMEAD & SON,

Corner of North and Monument Sts.,—Baltimore,

HAVING THEIR

IRON FOUNDRY AND MACHINE SHOP

In complete operation, are prepared to execute faithfully and promptly, orders for

Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.

June 8, 1849.

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,

IMPORTERS AND FURNISHERS

HAVE FOR SALE

Plain Garnet Plush. | Fig. Garnet Plush (Butterfly pat.
" Crimson " | " Crimson " (Elegant.
" Scarlet " | " " " (Gen. Taylor.

BROCATELLES.

Crimson Silk Brocatelles. Gold and Maroon do.
Gold and Blue " " Brown "
Silk and Wool " of every color.

MOQUETTS,

Of elegant designs and colors.

GERMAN CLOTH FOR CAR LININGS.

The most beautiful goods ever shown in this country, and the subscribers are the sole agents for the sale of them.

Oil cloths Enamelled with Gold. } These goods can be
" " Silver. } furnished in any
Do. Silver ground velvet printed. } dimensions req'd.

CURLED HAIR

Of every description and quality.

JNO. W. A. STRICKLAND, Agent.
New York, 1850. 1y16

FOWLER M. RAY'S Patent India-rubber Railroad CAR SPRING.

New York and Erie Railroad Shops.
Piermont, March 26, 1850.

This will certify that from practical experience in the use of Fowler M. Ray's India rubber Car Springs, I believe them to be far superior to any others now in use.

I have never known them to be affected by any change of temperature, as other Rubber Springs have been affected on this road.

I am at the present time repairing a Passenger Car that Mr. Ray and myself mounted with his springs about two years and eight months since.

The springs are at the present time as perfect, to all appearances, as when first applied to the car.

Respectfully yours,
HORACE B. GARDNER,
Foreman of the Car Shops.

—

Supt. Office N.Y. & H. R.R., }
New York, March 8, 1850. }

This is to certify that we have used the Rubber Springs manufactured by Mr. F. M. Ray for the past twenty months, "both for Passenger and Freight Car Springs and Bumpers, and of different sizes," and have in every case given entire satisfaction, and I consider them the best spring now in use

M. SLOAT, Supt.

—

Boston, March 5, 1850.

In answer to your enquiry about India-rubber Springs, I have to say that we have used them to a considerable extent on both freight and passenger cars, and also on several of our tenders; and I am very well satisfied that they answer all the purposes for which they are intended. I believe the India-rubber will soon supersede all other springs for cars and tenders.

Yours truly, S. M. FELTON,
Supt. Fitchburg Railroad.

Office New Jersey Railroad Co., }
Jersey City, March 8, 1850. }

FOWLER M. RAY, Esq.,

Dear Sir: In answer to your enquiries respecting the operation of the Vulcanised Rubber Springs, purchased by our company from you some two years since, I reply that they are superior to any spring in use, (that I have either seen or heard of).

The improved form of your spring, consisting of a solid piece of vulcanised rubber with bands on the outside, is far superior to your first form, consisting of disks of rubber with metallic plates interposed.

The last named form was tried, if you recollect, at a much earlier period; and then was replaced by your last form.

I have no hesitation in saying that your springs have given entire satisfaction, and most cheerfully recommend them to railroad companies throughout the country for the following reasons:

1st. The cost is 30 per cent. less.

2d. Saving of weight on each car of 8 wheels from 700 to 800 lbs.

3d. Less care and attention is required, as they are not liable to get out of repair.

4th. A great saving is secured in the wear and tear of the cars and rails from their great elasticity.

5th. The freedom from noise.

6th. There is greater safety in case of accident, as they cannot be broken.

7th. The comfort of passengers is enhanced sufficiently to pay the expense, waiving all the other reasons that I have given.

Should this fail to satisfy any person enquiring, you are at liberty to refer to me, No. 150 Washington St., Jersey City. Yours respectfully,

T. L. SMITH, Supt.

—

New York, March 11, 1850.

I have used the Patent India-rubber Spring purchased of Mr. Ray, upon the cars of the New York and New Haven Railroad, and have found them efficient and economical; and when applied to the axles and draw springs, believe them to be quite equal to any in use. I have found a combination of these springs with a steel spring under the transom beam a very satisfactory arrangement, and am now using this plan in all new cars. Yours respectfully,

ROBERT SCHUYLER.

—

February 25, 1850.

From practical observation of the use of the India-rubber Car Springs, manufactured and sold by your company, we are entirely satisfied in their application, and do not hesitate to recommend them as elastic, durable, requiring no repairs for years, and retaining their consistency during all extremes of weather. We have applied them for the past two years, and consider them superior for all railroad purposes.

Yours truly,
OSGOOD BRADLEY, Car Builder, Worcester.
T. & C. WASON, do. Springfield.
DEAN, PACKARD & MILLS, do. do.
DAVENPORT & BRIDGES, do. Cambridgeport.

—

Office of the New Jersey Railroad Co., }
Jersey City, March 7, 1850. }

This is to certify that we have had Mr. F. M. Ray's India-rubber Springs in constant use under our cars, and as Bumper Springs for upwards of two years, and they have in every way given perfect satisfaction.

The present form of spring we deem far superior to the form of Disk, having used both forms, although we have none of those made in Disks at present in use.

We take pleasure in recommending these springs to all railroad companies.

J. P. JACKSON, Vice Prest.
New Jersey Railroad and Trans. Co.

—

Roxbury, February 23, 1850.

In compliance with your request, I take great pleasure in stating the result of my experience in the use of "Ray's Patented Vulcanised India-rubber Car and Engine Springs." We have used them nearly two years, and never had one fail in any way. The *cold weather* does not affect *them*, as it has *other* rubber springs we have used.

With sixteen years' experience as superintendent of machinery on the Boston and Providence railroad, I take pleasure in saying that your springs are the best we ever used, or I ever saw used elsewhere. We have 20 cars rigged with them, of which I can say that the springs are as good now as when first applied. I put 24 lbs. of the rubber under the forward end of one of our heaviest engines, taking off 250 lbs. of steel springs—it has been in use 18 months, and is in as good condition now as when first put under the engine.

Very respectfully yours,
GEO. S. GRIGGS,
Supt. of Machinery, Boston and Prov. R.R.

Fall River, February 2, 1850.

In answer to yours of the 20th ult. I would say that this company has for some 10 or 12 months past been using "Ray's India-rubber Springs." We have applied them to both passenger and freight cars with uniform success. They have invariably preserved their elasticity and consistency through all the extremes of weather; and we are now applying them whenever the steel spring fails. I am well satisfied that they are particularly adapted for railroad purposes.

Very respectfully yours,
GEO. HAVEN,
Supt. Fall River Railroad.

—

Jersey City, March 9, 1850.

This is to certify that the present form of Mr. F. M. Ray's India-rubber Car Spring I consider far superior to the form of Disk, having used both forms.

I take pleasure in recommending these springs to all railroad companies. DAVID H. BAKER,
Foreman of Car Shop of N.J. R.R. & Trans. Co.

—

Harlem R.R. Depot, }
New York, March 7, 1850. }

This is to certify that we have used Mr. F. M. Ray's India-rubber Springs for over eighteen months, and find them to be easy and durable, and recommend them to railroad companies as being superior to anything we have tried. J. M. SMART,
Foreman at 42d St. Depot.

—

Old Colony Railroad Office,
Boston, March 6, 1850.

EDWARD CRANE, Esq.,
President New England Car Co.,

Dear Sir: In compliance with your request I would state that the Old Colony Railroad Comp'y have had in use upon their road, India-rubber Springs furnished by your company, for more than eighteen months past, during which time they have been extensively used under Passenger and Freight Cars, Locomotive Tenders, and for Drawer and Buffing Springs, with the most perfect success. The elasticity and consistency of the Rubber has never been unfavorably affected by either extremes of heat or cold—and from the experience which we have had in the use of Rubber Springs, I think them well adapted for railroad purposes—and therefore we have for some months past used Rubber almost exclusively, in all places where springs are required.

Respectfully yours, etc.,
JAS. H. MOORE,
Supt. O. C. Road.

—

Troy, February 27, 1850.

We have been using your India-rubber Car Springs for nearly two years—and we take pleasure in saying that in our opinion the rubber has to a certain extent already, and may eventually entirely supersede all other Springs for Railroad Car purposes. We now use it entirely for Draw Springs and Bumpers, considering it better and lighter than steel.

During our two years' experience in the use of it, we have not known any to lose their elasticity, or fail in any way; and we cheerfully recommend the rubber for railroad car springs. Very respectfully,

EATON, GILBERT & CO.

Passenger Car Linings.

THE Advertiser continues to make to order the Enamelled Car Linings which have been so highly approved the last three years, and are now exclusively used by all the Northern Railroads. No pains are spared to get out new styles, and adapt them to the tastes of every consumer.

Orders addressed to CHARLES STODDER, No. 75 Kilby street, Boston, will have prompt attention.

March 23, 1850. 2m

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

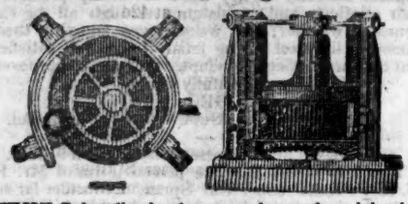
HORACE H. DAY,
Warehouse 23 Courtlandt street.
New York, May 21, 1849.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has give ne universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammersman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

References given if required

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,

THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest. P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *Sole Manufacturers*, ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

COLUMBUS, OHIO,

Railroad Car Manufactory. RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. 1y8

To Inventors and Patentees.

OWEN G WARREN, ARCHITECT, Has had many years' experience as Agent for obtaining Patents, both in this country and Europe, and will transact such business promptly and reasonably. Persons at a distance can have their business done by correspondence—without the necessity of visiting this city or Washington. Office No. 94 Merchants Exchange, Wall st., corner of Hanover st., up stairs. 1y3

MR. HALE:—"The New England Car Co., having been engaged for the last six months in introducing the Vulcanized India-rubber Car Spaings upon the different railroads in this and other states, and having in particular introduced it upon the Boston and Worcester railroad with perfect success, were much gratified to find, by your paper of this morning, that the article had given satisfaction to the president of that corporation, and the terms of just commendation in which you were pleased to speak of it. But their gratification was scarcely equalled by their surprise, when, or arriving at the close of your paragraph, they found the results of all their labors attributed to a foreign source, with which the New England Car Co. has no connection. The material used on the Boston and Worcester railroad, and all the other railroads in this country, where any preparation of India-rubber has been successfully applied, is entirely an American invention, patented in the year 1844 to Charles Goodyear, of New Haven, Conn., and the application of it to this purpose and the form in which it is applied are the invention of F. M. Ray of New York. The only material now in use, and so far as has yet appeared, the only preparation of India rubber capable of answering the purpose, has been furnished under these patents by the New England Car Company, manufactured under the immediate inspection of their own agent. If any other should be produced, the right to use it would depend upon the question of its interference with Mr. Goodyear's patent. The New England Car Company have their place of business in this city at No. 99 State street, and are prepared to answer all orders for the Vulcanised India rubber Car Springs, of the same quality and of the same manufacture as those which they have already placed on your road, and most fo the other roads terminating in this city."

And yet Mr. Knevitt is using these experiments made upon the Springs of the Car Company to induce the public to purchase his springs, and is attempting to impose upon them the belief that the springs used were furnished by him! We ask whether such a course is honorable, or entitles his statements to much consideration from the public.

The above Springs are for sale 98 Broadway, New York, and 99 State street, Boston.

EDWARD CRANE Agent, Boston.
F. M. RAY, Agent, New York.

Boston, May 8, 1849.

STABILITY—SECURITY—PERPETUITY.

Mutual Life Insurance Co. of New York.

No. 35 WALL STREET.

A MILLION OF DOLLARS

Securely invested in Bonds and Mortgages on real estate in this city and Brooklyn, and stocks of the State and City of New York and United States Government.

The company declared a dividend of profits of fifty-two per cent. on all existing policies on the 31st of January, 1848.

All the Profits are Divided Among the Insured.

Persons may effect insurance on their own lives and the lives of others.

A married woman can insure the life of her husband, the benefits of which are secured by law for the exclusive use of herself or children.

Clergymen and all others dependent upon salaries or their daily earnings are specially invited to avail themselves of a resource whereby their surviving families may be secured from the evils of penury.

Pamphlets explanatory of the principles of Mutual Life Insurance, and illustrating its advantages, with forms of application, may be obtained at the office of the company, 35 Wall street, or of any of its agents.

TRUSTEES.

Jos. B. Collins,	Abraham Bininger,
Wm. J. Hyslop.	Alfred Edwards,
R. H. McCurdy,	Wm. Betts,
Fred. S. Winston,	Joseph Blunt,
C. W. Faber,	Isaac G. Pearson,
John P. Yelverton,	Henry Wells,
Theo. Sedgwick,	Wm. Moore,
Stacy B. Collins,	George R. Clark,
John H. Swift,	Jona. Miller,
John Wadsworth,	David A. Comstock,
S. M. Cornell,	Robert Schuyler,
Gouv. M. Wilkins,	James Chambers,
John V. L. Pruyn,	Joseph Tuckerman,
Jas. S. Wadsworth,	Moses H. Grinnell,
Charles Ely,	Wm. J. Banker,
John C. Cruger,	John M. Stuart,
Charles King,	Francis S. Lathrop,
Alfred Pell,	Nathaniel Hayden.

JOSEPH. B. COLLINS, President.
ISAAC ABBATT, Secretary. 3m9

Hydraulic Cement.

KINGSTON LIME AND CEMENT CO.
OFFICE
271 PEARL-ST.
N. Y.

HYDRAULIC CEMENT, OF BEST QUALITY, manufactured at their works, for sale in lots to suit purchasers.

Also, Ground Lime, a superior article for Builders.

ISAAC FRYER, Sec'y.

January 19, 1850. 1y

Engine and Car Works, PORTLAND, MAINE.

THE PORTLAND COMPANY, Incorporated August 8th, 1846, with a capital of $250,000, have erected their extensive Works upon the deep water of Portland Harbor, and receive and transport, to and from their works direct, to and from vessels of any class.

They now manufacture to order, and deliver upon the Railroads running in each direction from the city, or on shipboard as wanted, Locomotive, Stationary, or Steam Boat Engines; Passenger, Mail, Freight, Earth and Hand Cars; Railway Frogs, Switches, Chairs and Castings; and every other description of Machinery.

HORACE FELTON, Superintendent.

JAMES C. CHURCHILL, General Agent and Clerk.

RAILROADS.

EASTERN RAILROAD.

SUMMER ARRANGEMENT.

On and after Monday, June 17th, 1850, trains will leave Boston daily (Sundays excepted);

For Lynn, 7, 9½, 11 a.m., 12 m., 2½, 4½, 5, 6, 7 p.m.
Salem, 7, 9½, 11, a.m., 12 m., 2½, 3, 4½, 6, 7 pm.
Manchester and Gloucester, 9½ a.m., 3, 6 p.m.
Marblehead, 7, 9½, 12 a.m. 2½, 4½, 6, 7 p.m.
Ipswich, 7, 11, 12 a.m., 2½, 4½, 7 p.m.
Newburyport, 7, 11, 12 a.m., 2½ 4½, 7 p.m.
Portsmouth, 7, 11 am., 4½, pm.
Portland, Me., 7, 11 am., 4½, pm.

And for Boston,

From Portland, 5, 10½ am., 5 pm.
Portsmouth, 7½,* am., 1, 7½*, pm.
Newburyport, 6½, 8*, 11½ am., 1½*, 5, 8 pm.
Ipswich. 7·40, 8·35, 11·42 a.m. 2·20, 5·22, 8½.
Gloucester, 7½, am., 1½, 8 pm.
Manchester, 7 am., 2 pm.,
Salem, 6½, 7½*, 8½*, 9½, 10½ am., 12½*, 2½* 3,* 6*, 9*, pm.
Lynn, 6½, 7½*, 8½*, 9½, 10½ am., 12½*, 2½*, 3½ 6½*, 9½* pm.

**Or on their arrival from the East.*

Freight trains each way daily. Office 17 Merchants' Row, Boston.

JOHN KINSMAN, Superintendent.

ALBANY AND BUFFALO RAILROADS.—Four Trains daily, Sundays excepted, viz: Leave Albany, 6 a.m., 9 a.m., 2 p.m., 7 p.m. Reach Buffalo, 15 hours, 18 hours, 23 hours, 18 hours. Arrive from Buffalo, 7 p.m., 2½ a.m., 12½ m., 3½ p.m.

Passengers by the *Express Train* reach Buffalo from New York, and New York from Buffalo, in 24 hours. The Isaac Newton and Oregon connect at Albany with this Train. Baggage cars, with careful baggage masters, run through with all the trains.

For Schenectady, Saratoga Springs & Whitehall, Leave Albany at 7 a.m. and 2 p.m. For Schenectady only at 6, 7 and 9 a.m. and 12½, 2 and 7 p.m. For Erie Canal packets at 7 a.m. and 7 p.m. By Plank Road from Schenectady to Saratoga at all hours by stages, etc.

The *Eastern Trains* leave Albany at 7 a.m. and 3 p.m. The wagons of the company take baggage *free* between railroads and steamboats at Albany.

E. FOSTER, Jr., Sec'y
Albany and Schenectady Railroad Co.
Albany, August, 1849.

BOSTON AND MAINE RAILROAD.

Summer Arrangement, 1850.
Outward Trains from Boston

For Portland at 7, 11, am. and 4½ pm.
For Great Falls at 7, 11, am., 4½ pm.
For Haverhill at 7, 9, 11 am., 2½, 4½, 6½, pm.
For Lawrence (South Side,) 7, 11 am., 2½, 4½, pm.
" (North ") 7½, 9, a.m. 12m., 5, 6½, p.m.
For Reading 7, 9, 11 am. 12m. 2½, 4½, 5, 6½, 7½, 9½ pm.
The Station in Boston is on Haymarket Square.

THOS. S. WILLIAMS, Super't.

July 1, 1850.

NEW YORK AND HARLEM RAILROAD.

NEW ARRANGEMENT.

On and after Wednesday, October 17th, 1849, the Cars will run as follows, (Sundays excepted) until further notice:

Trains will leave the City Hall, New York, for—
Harlem and Morrisania at 6½, 8, 10, 11, 12 am., 2, 3½, 4, 5, 6½ pm.
New Village, at 8½, 10, 12 am., 3½, 5, 6½ pm.
Fordham and Williams' Bridge, at 8½, 10, 12 am., 2½ 3½, 5, 6½ pm.
Hunt's Bridge, Underhill's and Hart's Corners, at 8½, 10 am., 3½, 5 pm.
Tuckahoe and White Plains, at 8½, 10 am., 2½, 3½, 5 pm.
Pleasantville, New Castle, Bedford, Mechanicsville, Purdy's, Croton Falls, and intermediate stations, on signal, 8½ am., 2½, 3½ pm.
Brewster's, Towner's, Patterson, Paulding's, South Dover, Dover Furnace, and Dover Plains, 8½ am., 2½ pm.

NOTICE—Passengers are reminded of the great danger of standing upon the platform of the cars, and hereby notified that the practice is contrary to the rules of the Company, and that they do not admit any responsibility for injury sustained by any passenger upon the platforms, in case of accident.

Returning to New York will leave
Harlem and Morrisiana at 6 08, 7½, 8 37, 9, 10 6, 12 am., 1 43, 3 07, 3½, 5, 5 47 pm.
New Village, at 5 58, 8 27, 9 56 am., 1 33, 2 57, 5 36 pm.
Fordham and William's Bridge at 5½, 8 14, 9 43, 10 57 am., 1 20, 2 44, 5 24 pm.
Hunt's Bridge at 8 04, 9 33 am., 2 34, 5 16 pm. On signal.
Underhill's, at 7 56, 9 23 a.m., 2 26, 5 10 p.m. On signal.
Tuckahoe at 7 53, 9 18, 10 40 am., 2 23, 5 08 pm.
Hart's Corners at 7 38, 9 03 am., 2 08, 4 54 pm.—On signal.
White Plains at 7½, 8 55, 10 20 am., 2, 4 47 pm.
Davis' Brook at 8 40, 10 11 am., On signal. 4 39 pm. On signal.
Unionville, 8 27, 10 11 am. On signal. 4 29 pm.—On signal.
Pleasantville at 8 20, 9 56 am., 4 24 pm.
Champaqua, at 8 10, 9 50 am. On signal. 4 18 pm. On signal.
New Castle, at 7 56, 9 38 am.. 4 07 pm.
Bedford at 7 46, 9 32 am., 4 02 pm.
Mechanicsville at 7 36, 9 22 am., 3 52 pm.
Golden's Bridge, 7 28, 9 17 am. On signal, 3 47 p m. On signal.
Purdy's at 7 20, 9 09 am., 3 39 pm.
Croton Falls, at 7½, 9 04 am.,3 34 pm.
Brewster's, at 8 50 am., 3 20 pm.
Towner's, at 8 35 am., 3 05 pm.
Paterson, at 8 27 am., 2 57 pm.
Paulding's, at 8 17 am., 2 47 pm.
South Dover, 8 02 am., 2 32 pm.
Dover Furnace, 7 55 am., 2 25 pm.
Dover Plains, at 7 45 am., 2 15 pm.

The trains for Harlem and Morrisiana leaving City Hall at 6½, 8, 10, 11, 12, 2, 4 and 6½, returning from Morrisiana and Harlem at 6 08, 7½, 9, 12, 1 43, 3 07, 3½ and 5 o'clock, will land and receive passengers at 27th 42d, 51st, 61st, 79th, 86th, 109th, 115th, 125th and 132d streets.

The Dover Plains train from New York at 2½ pm., returning leaving Dover Plains at 7½ am., will not stop between White Plains and New York, (except at Tuckahoe, Williams' Bridge and Fordham,) unless to leave passengers coming from above Croton Falls.

A car will precede each train ten minutes to take up passengers in the city. The last car will not stop, except at Broome st. and 27th street.

Freight Trains leave New York at 1 o'clock pm.—Returning, leaves Dover Plains at 12 o'clock m.

For Sunday Aarrangements, see hand bills.

M. SLOAT, Sup't.

NEW YORK & ERIE RAILROAD.

Summer Arrangement, 1850.

Steamboats leave daily, Sundays excepted, from the pier foot Duane st., at 6½ a.m., and 6½ p.m., for Piermont, there connecting with the new and comfortable broad gauge cars of this road, running to Jefferson at the head of Seneca Lake in 12 hours, where passengers take the new and splendid steamer Benj. Loder for for Geneva. At Geneva they take any o the trains of the central line for Rochester, Buffalo, and the west.

Breakfast and supper on board the steamboats at each end.

Express freight trains daily over the whole road in 24 hours.

FARES.

Between New York and Buffalo,		$9 85
" "	Geneva,	6 00
" "	(second class,	4 50

CHAS. MINOT, Supt.

August 1st, 1850.

NORTHERN RAILROAD, *NEW YORK.*

CARS run between Rouses Point and Chateaugay daily, Sundays excepted, as follows:

Leave Rouses Point at . . 3¾ A.M.
Leave Chateaugay at . . 6½ P.M.

On the arrival of the cars at Chataugay, stages are in readiness to take the passengers to Ogdensburg, where they arrive the same day.

Passengers leave Ogdensburg in the morning by stage, and take the evening train from Chataugay to Rouses Point, where they go immediately on board the steamboats which run north and south on Lake Champlain.

Passengers leaving New York in the evening by the way of Whitehall, will arrive at Rouses Point the next night, and the next morning pass directly from the boat to the cars, and arrive at Ogdensburg the same day. CHARLES L. SCHLATTER, Supt.

WESTERN AND ATLANTIC RAILROAD,

FROM ATLANTA, GA., TO CHATTANOOGA, TENN. 140 Miles.

PASSENGER SCHEDULE.

Leave Chattanooga daily, Sundays excepted, at 8½ a.m.
Arrive at Kingston . . . by 12 m.
" Dalton . . . by 3 p.m.
" Chattanooga . . . by 6 "
Leave Chattanooga daily, Sundays excepted, at 7 a.m.
Arrive at Dalton . . . by 9½ "
" Kingston . . . by 12 m.
" Atlanta . . . by 4 p.m.

The fare is now permanently reduced to *three* cents per mile for way as well as through Passengers; children and servants *two* cents per mile.

There are two Railroad routes from Atlanta to the Seaboard, viz: one by the Georgia Railroad to Augusta, and thence to Charleston by the South Carolina Railroad; the other by the Macon and Western Railroad to Macon, and thence to Savannah by the Central Railroad.

At Kingston, 60 miles north of Atlanta, the Rome Railroad branches off to Rome on the Coosa river, which admits of steamboat navigation as far down as Greensport in Ala. Mail stages are in operation from Rome leading towards Tuscaloosa, Ala., Columbus, Miss., Memphis, Tenn., etc.

At Dalton, 100 miles north of Atlanta, a line of stages branches off to Knoxville, Tenn., which will be superseded by the East Tennessee and Georgia Railroad as rapidly as the same is completed.

At Chattanooga a number of steamboats are in successful operation on the Tennessee river, and from that terminus of the road stages run to Nashville, which will be superseded by the Nashville and Chattanooga Railroad as rapidly as the same is completed.

WM. D. FULLTON, Supt. Transp.
Transportation W. & A. R. R.,
Atlanta, March, 1850.

GREAT NORTHERN & SOUTHERN MAIL ROUTE.

From New York to Charleston, S. C. daily, via *Philadelphia, Baltimore, Washington City, Richmond, Petersburg, Weldon and Wilmington, N. C.*

Travellers by this route, leaving New York at 4½ p. m., Philadelphia at 10 p.m., and Baltimore at 6 a.m., proceed without delay at any point on the route, arriving at Richmond, Va., in a day, and at Charleston, S. C., in two and half days from New York.

Through tickets from New York to Charleston, $20 00
" " Baltimore to Richmond, 7 00
" " " " Petersburg, 7 50

For tickets to Richmond and Petersburg, or further information, apply at the *Southern Ticket Office, adjoining the Washington Railroad Ticket Office, Pratt Street, Baltimore.* STOCKTON & FALLS.

LITTLE MIAMI RAILROAD.—SUMMER ARRANGEMENT.

Cincinnati and Sandusky.

FIRST Passenger Train leaves Depot on East Front street, at 5 o'clock 10 minutes A. M. stops for breakfast at Morrow, and arrives at Springfield at 11 10 A M. Leaves Springfield for Sandusky at 11 50 A. M.

Second Passenger Train leaves Depot 3 P. M. arrives at Springfield at 9 P.M. Passengers take tea at Springfield, and leaves for Sandusky at 9½ P. M.

RETURNING—First Train leaves Springfield at 4 A. M. Stop for breakfast at Xenia, and arrives at Cincinnati at 10 15 A. M.

Second Train leaves Springfield at 2½ P. M. Stop for tea at Morrow, and arrives at cincinnati, at 8½ P. M.

Passengers taking the Morning Train arrive at Sandusky at 9 P. M. Those taking the Afternoon Train arrive at 7½ A. M. next morning, and proceed directly on in the boats.

Passengers for columbus, Zanesville, Wheeling, and intermediate towns, should take the 5, 10 A. M., Train.

The Ohi Stage Company are running the following Lines in connection with the Trains:

A Daily Daylight Line to Columbus from Springfield in connection with the Morning Train from Cincinnati. Also, Daily Lines to Columbus, from Xenia and Springfield, connecting with the 3 o'clock pm. train from Cincinnati.

Fare from Cincinnati to	Xenia . .	$1 90
" "	Springfield . .	2 50
" "	Sandusky city .	6 50
" "	Buffalo . .	10 00
" "	Columbus . .	4 50

For other information and through tickets, apply at the Ticket Office on Broadway, near Front-st., Cincinnati.

W. H. CLEMENT, Superintendent.

☞ The Company will not be responsible for Baggage exceeding 50 dollars in value, unless the same is returned to the Conductors or Agent, and freight paid at the rate of a passage for every 500 dollars in value above that amount.

PHILADELPHIA, WILMINGTON, & BALTIMORE RAILROAD.

Summer Arrangement.
April 1st, 1849.—Fare $3.

Leave Philadelphia 8½ am., and 10 pm.
Leave Baltimore 9 am, and 8 pm.
Sunday—Leave Philadelphia at 10 pm.
" Baltimore at 8 pm.
Trains stop at way stations.

Charleston, S. C.

Through tickets Philadelphia to Charleston, $20.

Pittsburg and Wheeling.

Through ticket, Philadelphia to Pittsburg, $12.
" " Wheeling, 13.
Through tickets sold at Philadelphia office only.

Wilmington Accommodation.

Leave Philadelphia at 12 m. 4 and 7 pm.
Leave Wilmington at 7½ am., 4½ and 7 pm.

Newcastle Line.

Leave Philadelphia at 2½ pm.—Baltimore at 1½ pm
Fare $3.—Second class, $2.
N.B.—Extra baggage charged for.

I. R TRIMBLE, Gen. Supt.

BALTIMORE AND SUSQUEHANNA RAILROAD.—Reduction of Fare.

Morning and Afternoon Trains between Baltimore and York.—The Passenger Trains run daily, except Sundays, as follows:

Leave Baltimore at - - -	9 am. and 3½ pm.
Arrive at - - - -	9 am. and 6½ pm.
Leave York at - - - -	5 am. and 3 pm.
Arrive at - - - -	12½ pm. & 8 pm.
Leave York for Columbia at	1½ pm. & 8 am.
Leave Columbia for York at	8 am. & 2 pm.

Fare:

Fare to York - - - -	$1 50
" Wrightsville - - - -	2 00
" Columbia - - - -	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG, AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg - - - - - - $9
Or via Lancaster by railroad - - - - 10
Through tickets to Harrisburg or Gettysburg - 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at - - 5½ pm.
Returning, leaves Owing's Mills at - - 7 am.

D. C. H. BORDLEY, Sup't.
31 1y Ticket Office, 63 North st.

PHILADELPHIA & READING RAILROAD

Passenger Train Arrangement for 1850.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock a.m.

The Train from Philadelphia arrives at Reading at 12 18 m.

The Train from Pottsville arrives at Reading at 10 43 a.m.

Fares.	Miles.	No.1.	No.2.
Between Philad. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25	1·90
" Pottsville "	34	1·40	1·20

Five minutes allowed at Reading, and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf.

BALTIMORE AND OHIO RAILROAD AND WASHINGTON BRANCH.

On and after January 1, 1850, Passenger Trains will run as follows:

Leave Baltimore for Ellicott's Mills, Frederick, Harper's Ferry, Martinsburg, Hancock and Cumberland, every morning at 7½ o'clock. This line carries the Great Mail, and connects with Post Coaches at Cumberland, for Wheeling and Pittsburg, over the National Road. Also with the Winchester Trains, at Harper's Ferry. N.B.—Passengers for Pittsburg take the steamers of the Monongahela slack water navigation at *Brownsville*, only 76 miles from Cumberland.

Leave Baltimore for Ellicott's Mills, Frederick and Harper's Ferry, daily, except Sunday, at 4½ p.m.

Leave Baltimore for Washington City, daily, at 6 a.m. and 5 p.m.—daily, except Sunday, at 9 a.m. The early train connects with the Great Southern Line, via Fredericksburg and Richmond, to Charleston.

Leave Cumberland for Baltimore, etc., at 8½ a. m., daily, connecting with the train from Winchester at Harper's Ferry—with the Evening Train to Washington City, at the Relay House—and with the Evening Train to Philadelphia, at Baltimore. Time for arriving at Baltimore, 5½ p.m.

Leave Harper's Ferry for Baltimore, daily, except Sunday, at 7½ a. m—taking in Passengers who leave Frederick at 8½ a.m.

Leave Washington for Baltimore, daily, at 6 a.m. & 5½ p.m., and *daily, except Sunday*, at 9½ a. m. The early train connects at the Relay House with the morning line to Cumberland and the West, and at Baltimore with the day line to Philadelphia and New York.

Through tickets are sold at *Philadelphia and Baltimore* for Pittsburgh and Wheeling, and at *Philadelphia and New York* for Charleston, S. C., at the following

RATES OF FARE.

	To Pittsburg. In winter.	Summer.	Wheeling. Win.	Sum.	Charleston.
From Philadelphia,	$13	$12	$14	$13	$20
" Baltimore,	11	10	12	11	
" New York, ...					20

Passengers leaving New York not later than the afternoon line via Newark, etc., reach Baltimore in season to take the next morning's lines to the South and West.

Passengers leaving Cumberland in the morning and Washington in the evening lines, reach Baltimore in season to proceed to Philadelphia by the evening train at 8 p. m.—so as to reach New York before noon the next day.

An Emigrant line by burthen cars, leaves Baltimore every morning, except Sundays, at 4 o'clock—connecting with a line of the previous day from N. York—and at Cumberland with a wagon line to Pittsburg or Brownsville and Wheeling. Fare by this line:

From New York to Pittsburg,		$8 00
" Philadelphia	"	6 50
" Baltimore	"	5 00

By order, J. T. ENGLAND, Agent.

SOUTH CAROLINA RAILROAD.—A PASSENGER TRAIN

runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily - - - - - - $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia - - - 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic Railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

FAIRBANKS' RAILROAD SCALES.—THE subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and dispatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon railroads, either in the United States or Great Britain;—and the managers refer with confidence to the following in the United States.

Eastern Railroad.	Boston & Maine Railroad.
Providence Railroad.	Providence and Wor. Road.
Western Railroad.	Concord Railroad.
Old Colony Railroad.	Fitchburg Railroad.
Schenectady Railroad.	Syracuse and Utica Road.
Balt. and Ohio Railroad.	Baltimore and Susq. Road.
Phila. & Reading Road.	Schuylkill Valley Road.
Central (Ga.) Railroad.	Macon and Western Road.

New York and Erie Railroad.

And other principal Railroads in the Western, Middle and Southern States.

E. & T. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents, { FAIRBANKS & Co., 89 Water St., N. York. / A. B. NORRIS, 196 Market St. Philadelphia.

April 22, 1849. 1y*17

NOTICE TO
Superintendents of Railroads.

TYLER'S PATENT SAFETY SWITCH.—The undersigned would respectfully call their attention to his Patent Safety Switch, which from long trial and late severe tests has proved itself perfectly reliable for the purpose for which it was intended. It is designed to prevent the train from running off when the switch is set to the wrong track by design or accident. The single rail or gate switch is established as the best and safest switch for the ordinary purpose of shifting cars from one track to another, but it is liable to the serious evil of having one track open or broken when connected with the other. My improvement entirely removes this evil, and while it accomplishes this important office, leaves the switch in its original simplicity and perfection of a plain unbroken rail, connecting one track with the other ready for use.

The following decision of the Commissioner of Patents is respectfully submitted to Railroad Engineers, Superintendents, and all others interested in the subject.

P. B. TYLER.

(COPY.)

UNITED STATES PATENT OFFICE,
Washington City, D.C., April 28th, 1846.

SIR: You are hereby informed that in the case of the interference between your claims and those of Gustavus A. Nicolls, for improvements in safety switches—upon which a hearing was appointed to take place on the 3d Monday in March, 1846, the question of priority of invention has been decided in your favor. Inclosed is a copy of the decision. The testimony in the case is now open to the inspection of those concerned.

Yours respectfully, EDMUND BURKE,
Commissioner of Patents.

To Philos B. Tyler.

Any further information may be obtained by addressing P. B. TYLER, Springfield, Mass., or JOHN PENDLETON, Agent, 149 Hudson St., New York.

NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, N. Y.

THESE Works are in full operation in Manufacturing to order, Locomotive Steam Engines & Tenders, of the best principle and construction of material, using wrought iron heavy frames with pedestals welded thereto, and all parts of the engine made of the best wrought iron, except cylinders, pumps and boxes—obtaining greater durability, and carrying less weight over the road, than engines constructed of cast iron.

Wrought Iron Tires made any required size, and Tire Bars bent and welded with dispatch.

Chilled Wheels for Cars, Tucks and Tenders, made from the toughest iron.

Driving and Tender and Car Wheels fitted to Axles with Brass Boxes and Springs, and Railroad Machinery generally. Manufactured and for sale by

April 11, 1849. E. S. NORRIS.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

CENTRAL RAILROAD FROM SAVANNAH TO MACON, (Ga.) 190¼ miles.

Passenger Trains leave Savannah and Macon daily at 7 a.m.
Passenger trains arrive daily at Savannah, 6 15 p.m.
" " " " Macon, 6 45 p.m.

This road, in connection with the Macon and Western road from Macon to Atlanta, and the Western and Atlantic road from Atlanta to Dalton, now forms a continuous line of 391¼ miles in length* from Savannah to Dalton, Murray county, Ga. and with the Memphis Branch railroad, and Stages connect with the following places:

Tickets from Savannah to Macon,		$5 75
" " "	Atlanta,	9 50
" " "	Augusta,	6 50
" " "	Columbus,	15 00
" " "	Opelika,†	17 00
" " "	Jacksonville, Ala.,	20 00
" " "	Talladega,	22 00
" " "	Huntsville Ala.,	
" " "	Decatur,	
" " "	Tuscumbia, Ala.,	22 50
" " "	Tuscaloosa, Ala.,	28 00
" " "	Columbus, Miss,	
" " "	Aberdeen, "	
" " "	Holly Springs	
" " "	Nashville, Tenn.	25 00
" " "	Murphreesboro'	
" " "	Columbia, do.,	
" " "	Memphis, do.,	30 00

An extra Passenger Train leaves Savannah on Saturdays, after the arrival of the Steam-ships from New York, for Macon, and connects with the Macon and Western railroad; and on Tuesdays, after the arrival of the Macon and Western cars, an extra Passenger Train leaves Macon to connect with the Steam ships for New York

Stages for Tallahasse and intermediate places connect with the road at Macon, Mondays, Wednesdays, and Fridays, and with Milledgeville at Gordon daily.

Passengers for Montgomery, Mobile and New Orleans take stage for Opelika from Barnesville through Columbus, a distance of 97 miles, or from Griffin thro' West Point, a distance ot 93 miles.

* The Western and Atlantic railroad will soon be completed between Dalton and Chattanooga, a distance of 423¼ miles from Savannah, of which due notice will be given.

† Head of the West Point and Montgomery railroad, on which the fare to Montgomery is about $2.

RATES OF FREIGHT FOR MERCHANDIZE GENERALLY, FROM SAVANNAH TO MACON.

Measurement Goods.—Boxes of hats, bonnets, furniture, shoes, saddlery, dry-goods, and other measurement goods, per cubic foot - - 13 cents.
Crockery Ware, in crates, boxes or hhds, per cubic foot. - - - - 10 "
Goods by Weight, 1st class.—Boxes of glass, paints, drugs & confectionary, per 100 lbs., 50 "
2d class—Sugar, coffee, rope, butter, cheese, lard, tobacco, leather, hides, copper, sheet and hoop iron, tin, hard and hollow ware, rice, boxes soap and candles, bagging, and other heavy articles not enumerated below, per 100 lbs., - - - - 45 "
3d class—Flour, bacon, liquors, pork, beef, fish, tallow and beeswax, per 100 lbs., 40 "
4th class—Mill-gearing, pig and bar iron, grind and millstones, nails, spikes and coal, 100 lb. 30 "
Barrels of beets, bread, crackers, potatoes, ice, fruit, oysters, onions, and all light bbls, each, 75 "
Oil and molasses per hhd., (smaller casks in proportion) - - - $6 00 "
Salt per sack not exceeding 4 bushels, - 50 "

☞ Goods consigned to Thos. S. Wayne, Forwarding Agent, Savannah, will be forwarded free of commission. WM. M. WADLEY, Supt.

Savannah, Ga., February 24, 1850.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, near Third, below Walnut, Philadelphia.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD, FROM ATLANTA TO DALTON, 100 MILES.

This Road, in connection with the South Carolina Railroad, and Western and Atlantic Railroad, now forms a continuous line, 408 miles in length, from Charleston to Dalton Cross Plains) in Murray county, Ga. 32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class	Boxes of Hats, Bonnets, and Furniture, per cub-foot - -	$0 18	$0 28
2d class	Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs, and Confectionary, per 100 lbs.	1 00	1 50
3d class	Sugar, Coffee, Liquor, Bagging, Rope, Cotton, Yarns Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow ware, Castings, Crockery, etc.	0 60	0 85
4th class	Flour Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc. - - -	0 40	0 65
	Cotton, per 100 lbs. -	0 45	0 70
	Molasses per hogshead -	8 50	13 50
	" " barrel - -	2 50	4 25
	Salt per bushel - -	0 18	
	Salt per Liverpool sack -	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows - -	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Company will be forwarded free of commissions. Freights payable at Dalton.

F. C. ARMS,
44*1y Sup't of Transportation.

CAR MANUFACTORY
CINCINNATI, OHIO.

KECK & DAVENPORT WOULD RESPECTfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, Oct. 2, 1848. 44tf

NICOLL'S PATENT SAFETY SWITCH FOR Railroad Turnouts.

This invention for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design. It acts independently of the main track rails; being laid down or removed without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two castings and two rails; the latter, even if much worn or used, not objectionable.

Working models of the Safety Switch may be seen at Messrs. Davenport, Bridges & Kirk's Cambridge Port, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained, on application to the Subscriber, Inventor and Patentee.

G. A. NICOLLS,
Reading, Pa.

FOWLER M. RAY'S
METALLIC INDIA RUBBER CAR SPRINGS.

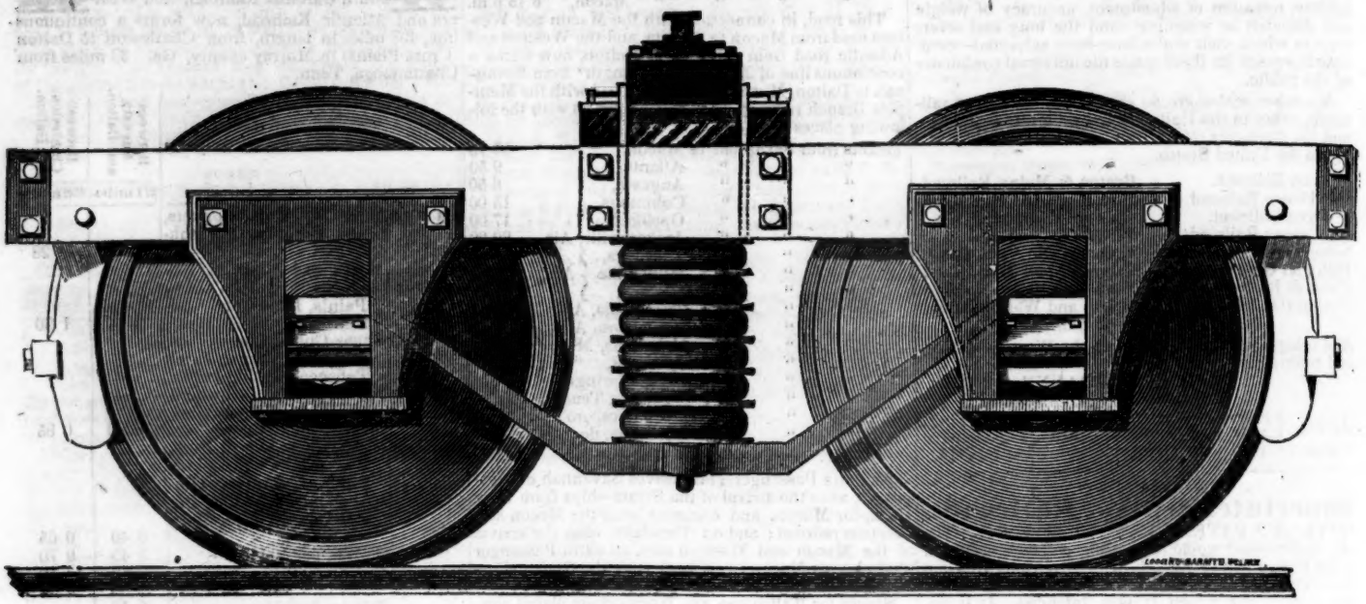


Fig. 1.

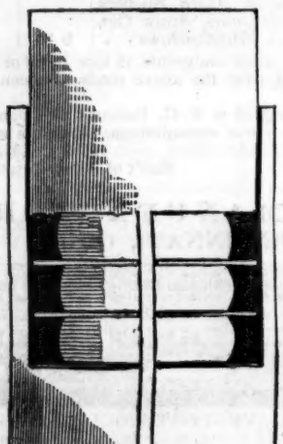


Fig. 2.

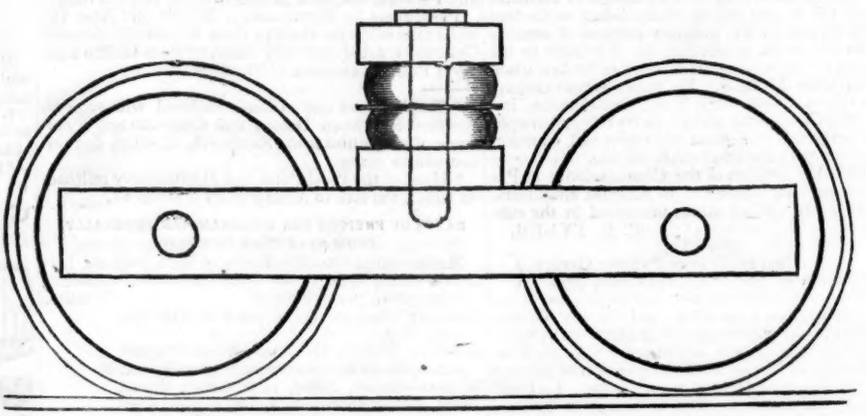
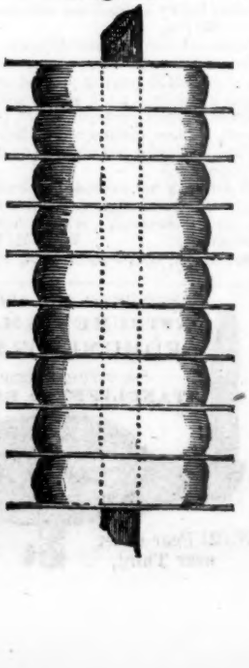


Fig. 3.



So much has been published for the purpose of misleading the public in regard to the inventorship of the India-rubber Railroad Spring, patented in the United States by Mr. W. C. Fuller, that the New England Car Company, proprietors of this invention, have deemed it proper, for the information of Railroad Companies, Car Builders and the public generally, to lay before them the facts upon which they found their claim to this invention, and to a Patent therefor.

Cut No. 1, Represents a cross section of the first model made by Mr. Tucker, under the direction of Mr. Ray, in the summer of 1844, and to which Mr. Tucker, Mr. Bradley and Mr. Bannester testify as being the model marked "B."

Cut No. 2, Represents the model made in 1845, to which Mr. Osgood Bradley and Gen. Thos. W. Harvey have testified.

Cut No. 3, Represents a rough sketch made by Mr. Ray in 1844, which he gave to a man about departing for England to take out some patents, who promised to write to Ray after his arrival in that country—which promise he has probably forgotten.

Mr. W. C. Fuller, of England, patented the above Spring in that country on the 23d October, 1845. He filed his enrollment April 23d, 1846, and on the 22d October, 1846, he took out a patent in the United States under the title, "For Improvement in Railway Carriages," when the improvement consisted in the spring, and not in the carriage.

The reader will perceive by the annexed testimony, that the India-rubber Railroad Car Spring was invented by Mr. Ray about two years previous to the date of Mr. Fuller's enrollment.

The Depositions are omitted for want of room, but will be published in full in the course of a few weeks.

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HENRY V. POOR,
136 NASSAU STREET.